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The Second International Salon at Los Angeles

A Series of Impressions

ARTHUR F. KALES

THE art-loving public of the Pacific Coast has had the opportunity to view several very creditable exhibitions of pictorial photography; but the Second International Salon, held under the auspices of the Camera Pictorialists of Los Angeles, presented without doubt the finest and most representative collection of pictorial photographs that this section of the country has yet seen. Thanks to the foresight of the salon-committee in sending out announcements and entry-blanks several months in advance, the Salon had a truly international flavor—presenting, as it did, prints from England, Canada, Australia and Japan in sufficient number to offer a pleasing contrast to the American work.

The gallery of the Museum of Fine Arts is admirably adapted to a display of this kind, and the show as a whole made a decidedly pleasing impression, due largely to the care and thought evidenced in the selection and hanging of the prints.

An analytical review is too often a glorified synopsis of the catalog—a sweet-scented *résumé* of those present, with a metaphorical pat on the back for one and all, down to the janitor. But space forbids and inclination vetoes this time-honored custom of damning with faint praise, and so only those prints which reflect distinct personality and artistic handling have been selected for comment.

As was to be expected, the Pacific Coast was well represented, particularly the California contingent. The western pictorialist is a restless soul. He photographs just as strenuously as he does most other things—at the rate of a mile a minute. He is a prolific creature and his results too often reflect his method of attack, for they are frequently haphazard and commonplace. He has never been known to hibernate through the winter in darkroom or studio and to emerge in the spring with perhaps three or four choice prints. There is too much ground to be covered and life is too short. Where are the prints of yesteryear? He knoweth not and careth less—that is, at least, with one notable exception—Mr. W. H. Rabe.

Mr. Rabe's work is never hurried and his prints are expressive of careful consideration from conception to completion. "Dancing Trees" and "The Promenade" are excellent examples of his work, and the latter is particularly interesting as the negative was made about twenty-five years ago, and did not make its début as a full-fledged exhibition print until last year. How many of us could comb our old negative-piles to such good purpose? The test of time is truly an acid one and here is a picture of a past vintage, yet one modern in vision, strong in values and composition, and thoroughly sound in conception as judged by modern standards of placement and pattern.

John Paul Edwards and his friend and co-worker E. M. Pratt show some very delightful prints in their characteristic style. The many who have seen Mr. Edwards' "Strollers" must agree to its charm. No chance, lucky shot this; but the result of unerring judgment in grasping and subordinating elusive opportunity. Mr. Pratt's "Spreckels' Sugar Refinery" is a fine thing—much bigger than its title would indicate. All of the power and thrill of industry are there; but Mr. Pratt robs his subject of all its poetry by a literal and commonplace title.

"Ho! Charon," by Dr. Percy Neymann, is a dramatic outdoor nude study, well titled and well rendered. It is by far the strongest work Dr. Neymann has yet offered.

Otto Schulte is a spasmodic worker; but there

THE PROMENADE W. H. RABE

LOS ANGELES SALON

have been only few Salons in recent years that have not had at least one strong print from him. His "By the Lake—Foggy Morning" is a fine bit of design which could easily have been marred by inexpert handling. It is a difficult subject and a new presentation of the California Eucalyptus.

Laura Adams Armer is another well-known Californian whose work is distinctly individual. Her "Islanders" has had a long and honored exhibition career, but, like all really good works, time has enhanced rather than detracted from its charm. It is a wonderfully fine bit of mural decoration which displays even more than ordinary traces of hand-work; but in this case the end more than justifies the means.

The Camera Pictorialists of Los Angeles, under whose direction the Salon has been held, have furnished a strong collection of prints that are distinctive in viewpoint and rank with the best in the show.

The older and more experienced members have submitted examples of their best work, all of which are worthy of comment, but the efforts of four new members, Messrs. C. J. Marvin, Geo. Brookwell, R. W. Brown and Ford Sterling, are entitled to first consideration on account of the promise they hold for bigger and better work in the future.

Of this group, a high-key "portrait of Mae Murray," by Ford Sterling, and Mr. Marvin's "Idle Moments" are the most impressive. The latter is a very fine figure-study and should blaze a new pictorial trail for its author.

Fred Archer, E. C. Kenton and W. A. Hudson, of the Camera Pictorialists, are now in the "Service," but have nevertheless managed to enter some fine prints.

When prints from Japan are mentioned, one automatically looks up C. P. Crowther in the catalog. It has remained for an Englishman to put Nippon on the pictorial map. He has sent a series of prints which pulse with the mystery of the Orient—portrayals of famous Japanese actors in classic roles. His "Matsumoto Koshiro," as the Robin Hood of Japan,

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THE SLACKER — HOLMES I. METTEE

LOS ANGELES SALON

is one of the most striking prints in the show, technically a fine piece of work and delicately subtle in treatment. His prints are larger than any of his that I have previously seen and the increased size has added greatly to their pictorial strength.

Kanesi Kawakami and Hideo Yoshida have each sent gum-prints from the land of the Rising Sun, and they are fine bits of technical work. The latter's "Portrait" just misses being a little gem. Its author seems to have been a bit too conscious of an occidental audience in his treatment of a charming oriental subject.

Of the Canadian prints, "Unrepentant," by W. R. Allen of Montreal, is easily the most striking. It is a delightful child-study. In delicious contrast to the sullen little features is the streaming sunlight which bids fair to clear away the clouds of childish tragedy.

Among the prints from Great Britain, "The Liner's Escort," by Engr. Comdr. E. J. Mowlam, has a dramatic appeal which would make for its popularity the world over, Germany excepted. It is the happy combination of suggestion and grim reality. The angry seas in the foreground and the flying spray streaming from the decks of the destroyer which is convoying the giant liner in the background, portray most graphically and thrillingly Britain's mastery of the seas.

This Salon is unusually rich in carbons, a process virtually unknown to western workers, yet one of the most subtle and delicate mediums within reach of the pictorialist.

The members of the Buffalo Camera Club, the Chicago Camera Club and the Photo-Fellows of Chicago have contributed carbon-prints which have done much to raise the Salon above the level of the ordinary. These prints, together with several very fine bromoils by other Eastern workers, are even as an oasis in an otherwise desert of bromide and chloride.

W. H. Porterfield is probably the strongest individual exhibitor of carbons; but he is hard put to maintain his claim to first honors. His prints have a bigness of conception and a breadth of treatment that raise them to a pictorial plane of their own. His "Storm-Wind" has all the qualities of a painting without sacrificing any of its dignity as a photograph, and is one of the finest things in the show.

Edward McPhail has sent his "Power of Niagara" which is too well known among picture-lovers to need further comment. But one may pause to say that its presence adds strength and a sense of bigness to that portion of the wall on which it is hung.

David Bonnar, Claude L. Moore and Chas. L. Peck have collectively shown us the romance and

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THROUGH THE GATES OF ST. PAUL
LOS ANGELES SALON
WILLIAM H. ZERBE

mystery of Buffalo Harbor. Their three prints, "A Glimpse in Buffalo River," "The Harbor Below" and "Buffalo Harbor—Evening," are colossal. They have pictured the spirit of America—the vital force of the nation.

C. W. Christiansen's "Study in Pond-Lilies" is a master-bit of massed pattern. A less competent draughtsman could so easily have destroyed the delicate balance which governs the various masses in the composition.

Among the exhibitors of bromoils, two names stand pre-eminent—Dr. A. D. Chaffee and George Alexander.

Dr. Chaffee's "St. Michel" could easily be a page from Maxfield Parrish's sketch-book, and his "Douarninez-Finisterre" is a wonderful study in comparative values. These and four other excellent bromoils are at once the wonder and despair of all adventurous spirits who have wrestled with this elusive process.

George Alexander also presents two bromoils whose presence is apt to be most stimulating to the sale of stag's-foot brushes and lithographic ink. His "Bird-Study" is beautifully composed and his "Lotus" has all the quality and texture of a fine crayon. Both show a masterly handling of subdued values.

From Baltimore have come several prints in a little-used medium—Gum Bromide. They are the work of Mr. Frederick Frittita, and one especially, "Un Poème," is quite remarkable for its richness in the halftones and lower tones. These prints are quite small, almost miniatures, but have a remarkable carrying-power.

Among the gum-prints, the work of Dr. Rupert Lovejoy, Francis O. Libby, Wm. Gordon Shields and W. A. Hudson is easily supreme. As a medium of suggestion, Dr. Lovejoy's "Long Trail" is, perhaps, the most consistent; but Mr. Shields' "Hour of Twilight" is one of the finest bits of technical gum-work in the show and has a strong pictorial appeal, as has also Mr. Libby's "Wardens of the Sky."

Leonard Westphalen has contributed the best nude in the Salon, which is singularly free of subjects of this character. It is a miniature "Henner" in feeling and treatment, and this impression is still further enhanced by its tone.

Holmes I. Mettee has produced in "The Slacker" a picture which dominates many surrounding prints several times its size. Its force is compelling. Here we have a proper connection between title and subject, but it is a subtle and not too obvious one. It is a fine print, well titled, and excellent in its placement and rendering of masses. A larger print would add to its weight, but it is unquestionably fine as it is.

It has remained for John Stocksdale to produce one of the most charming and unconventional portraits in the Salon. He has a refreshing viewpoint and the simplicity of pose and severity of line have made it conspicuous.

Forman Hanna lives in a country which is barren of pictorial subjects as measured by the usual routine. His earlier subjects were notably cloud and desert landscapes; but his later work opens up an inexhaustible field which he may claim as his own. The life of the Arizona Indians, the dwellers on the mesa, offers unlimited possibilities, and Mr. Hanna's "Hopi Woman" would indicate that he is thoroughly alive to this fact.

Albert F. Snyder's "Approaching Storm" will withstand the most searching analysis. Its composition alone is noteworthy. His placement of small and scattered masses is faultless, each in its place and each carrying its proper weight. Pictorially, it is a fine thing and presents a strong bid for recognition on that score.

Wm. H. Zerbe is always attracted by big things, and in his "Through the Gate of St. Paul's" he has caught the heart-throb of a great city. It is admirably balanced, and the hurrying throng and the vista beyond, seen through the low-toned foreground, lift it from an architectural study into a glimpse of life itself.

The most delightful child-study shown is by G. Buell and Hebe Hollister, and is called the "Venetian Water-Jar." It is a subject for Maxfield Parrish or Jessie Wilcox Smith. What a wealth of romance and adventure might be hidden in that jar, and what a sweet bit of drawing in the quaint little figure!

During the past few years, an enterprising and original group of pictorialists has developed in and about Portland, Oregon, and some very good prints have come from the northwest. Henry Berger, Jr.'s "The City" is a very pleasing carbon and has an etchinglike quality which helps to break up and subdue the heavy masses of its composition.

The Camera Club of Salt Lake City is also developing some keen workers. I understand that Thos. O. Sheckell has been making exhibition prints for only a few months and, if so, he is to be congratulated on his "Frosty Morn" which has all the force and strength of a man who knows whither he is bound. It is a happy union of strength and delicacy. Mr. Sheckell, however, should cultivate the art of properly displaying his wares, for the excellent judgment displayed in making the print was sadly lacking when it came to the mounting.

L. A. Olsen shows one of the best winter-scenes in the exhibition in his "Weeds and Fence." It is a clever bit of composition and

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could so easily have been reduced to the level of the commonplace by a change of viewpoint or by different trimming.

The review of the show, as a whole, leaves a decidedly pleasing impression. To be sure, there are prints which are lacking in interest, but which deserved consideration on points alone. An exhibition that was one-hundred per cent super-pictorial would be titanic, if not cataclysmic. But one may safely say that here is concrete evidence that pictorial photography is steadily and surely strengthening its claim to classification as one of the fine arts.

California has developed independently a group of pictorialists whose work has won recognition at all of the important Salons, in this country and abroad, and their growth has been remarkable when one considers their isolation. Exhibitions of this kind, which enable one small corner to see and study what the rest of the world is doing, will surely put Pictorial Photography in the west on a saner and sounder basis, and it is to be hoped that this salon of the Camera Pictorialists of Los Angeles will become a yearly event and will receive as strong support in the future as has been accorded it this year.

NOTE: Forman Hanna's "Hopi Woman" will appear in March PHOTO-ERA.—[EDITOR.]

The Quest for Color

Fifth of the "Professor Pyro" Talks

MICHAEL GROSS

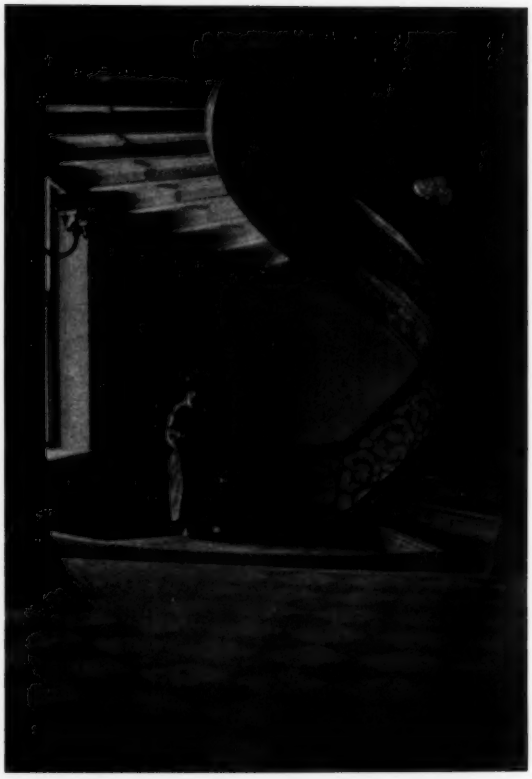
"BEFORE we proceed with the history of the further evolution of photography," said Professor Pyro, "let me summarize briefly the ground that has already been covered. Primitive man, we have found to be ever curious and always eager to obtain from old Mother Nature some of her treasured secrets. By noting the shadows and images cast by the sun's rays, he endeavored immediately to find some way to produce these images at will. From this quest, by various stages and through many evolutions and improvements, sprang the Camera Obscura, in which exterior scenes were produced in a darkened chamber by means of a lens-covered hole pierced through one of the walls. This innovation was followed by the discovery of the properties of nitrate of silver; then came the making of photographic impressions on paper coated with this substance, and, in due time, a method was found to make these images permanent. Soon, the camera itself arrived and, in quick succession when the story is thus recounted, followed the daguerreotype, the collodion-plate, the gelatine dry-plate, and, finally, the daylight-loading film-cartridge of to-day.

"But modern man, in common with his primitive brother, still retains his ancient heritage—an insatiable curiosity, a sub-conscious craving to see 'what's around the corner,' and a deeply rooted habit of asking 'why' instead of taking a fact for granted. This instinct, if I may so call it, may serve as an explanation for the motive which prompted man—after monochrome photography had been brought to a stage where a picture could be made in a four-thousandth part of one second, and the photography of traveling-bullets and other projectiles was a matter of everyday occurrence—to 'look on all the works that his hands had wrought, and on the labor that he had labored to do, and to find all was vanity and a striving after wind and there was no profit under the sun'—unless, forsooth, he could discover some way to reproduce Nature in all of her wondrous beauty and range of color.

"The first step in this direction came when Professor Clark-Maxwell—head of the first class in experimental physics at Cambridge—found that it was possible to imitate any color perceived by the eye by mixing three primary colors—orange-red, green, and blue-violet. Before showing why this was so, let me take a moment to give you a brief idea of what color is and how color is seen by the human eye.

"Color is due to the suppression or absorption of some of the constituent rays of white light. That sounds a little pedantic, I'll admit, so I will try to simplify the explanation. A piece of red ribbon, for instance, appears red only because it has suppressed or absorbed those colors to which red is complementary and the remaining color gives you the impression of red. Even that isn't very simple; but you'll see my meaning clearer as we proceed. White and black, as you no doubt know, are not properly colors. White is the sum of all-light-rays, and, like a beam of

A GLIMPSE IN BUFFALO RIVER
LOS ANGELES SALON
DAVID W. BONNAR



THE WINDING STAIR FREDERICK F. FRITTITA
LOS ANGELES SALON

sunlight, is seen as white. Black, on the other hand, is the suppression of all light and therefore of all color—for without light there can be no color.

"When Clark-Maxwell found that, by combining and superposing the orange-red, green and blue-violet colors of a scene he could obtain the compound colors of nature, he did merely what the human eye does in taking in the color of an object. The tints and shadings you see when gazing at a beautiful landscape, are formed for you because your eyes single out the red, green, and blue rays in the scene and then reconstruct these rays into the various intermediate colors. Nature, the greatest photographer in the world, has given your eyes a special mechanism with which to do this compounding. However, in photography, the same process requires three plates—one to record the 'greenness' of a scene, a second, the 'redness,' and a third, the 'blue-violetness.' These plates are obtained by making three exposures through three separate light-filters. The first filter lets pass only the red rays in a scene; the second produces a negative showing only the green rays; and the third yields a negative showing only the blue-violet rays in the object photographed. In making positives from these plates, the one made from the red negative shows density according to the amount of red in the original scene; the green and the blue-violet positives show density according to the amount of these colors in the object photographed. When the red positive is placed in a lantern and projected through a lens—the same color as the filter through which it was made—it shows all the red there was in the original subject. The same thing happens when you show the green positive through a

THE VENETIAN WATER-JAR G. BUELL AND HEBE HOLLISTER
LOS ANGELES SALON

green lens, and the blue-violet positive through a blue-violet lens.

"Now, if the findings of Clark-Maxwell were accurate, and the true colors of Nature may be produced by superposing red, green and blue, it naturally follows that if the three positives I have just mentioned were projected through their respective color-lenses, and the three images thus formed were made to register on a screen, the resultant composite image would be in the natural colors of the scene photographed. A simple method to form this composite 'full-color' image was invented in 1888 by F. E. Ives. It consists of a box so constructed that it holds the three positives and an arrangement of transparent glass-mirrors which show the plates superposed, thus giving the colors of the original. Many variations of this process were soon placed upon the market—however, all having the same basic idea—three negatives made through ray-filters, the positives of which were afterwards projected through colored lenses and superposed.

"There was no radical change in the method used to obtain pictures in actual colors, until Messrs. Lumière, of Lyons, brought out their now famous Autochrome plates, in 1907. With these plates, objects could be photographed in the actual colors of nature by one exposure and through but one ray-filter. In addition to these advantages, the negative itself was turned into a positive during the course of development, and this positive, when viewed by transmitted light, showed all the colors of the original scene. Autochrome plates eliminated, at one stroke, the triple exposure necessary under the old method of making the picture; the making of positives from the negatives thus obtained, and the pro-

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jecting and superposing of these positives in a specially constructed lantern or viewing-box.

"Briefly, Autochrome-plates differ from ordinary black-and-white plates in that, between the regular photographic emulsion and the glass, there is placed a thin layer of starch-grains, each grain being approximately one seventeenth-hundredth part of an inch in diameter. These starch-grains are dyed orange-red, green and violet, and are dusted on the plate after it has been coated with a sticky substance. The spaces that the starch-grains do not fill are covered by dusting the plate with fine lampblack, which adheres to the uncovered or still sticky parts. These vari-colored starch-grains are mixed in such proportion that the layer appears colorless when examined by transmitted light. The regular sensitized coating of the plate is extremely thin and is made of a special, fine-grained panchromatic emulsion. The plate is placed into the camera with the glass-side toward the lens. When the exposure is made, the light must pass through the colored starch-grains before reaching the sensitive coating. Each of these grains acts individually as a minute color-screen and absorbs every color in the scene but its own. When the plate is developed, a black spot is found under each grain. This spot is reduced silver of a density proportionate to the amount of color received and transmitted by the particular starch-grain under which it lies. If the plate were now fixed, the picture, when examined by transmitted light, would show only those colors complementary to those in the original, because the true colors would be hidden by the black spots beneath each grain. However, instead of fixing the plate, the image is reversed. The opaque spots under each starch-grain now become translucent and transmit colored light identical in hue to the light transmitted by the grain when the plate was first exposed in the camera.

"I would like to mention, before I conclude this talk, that although the first photographic process which gave pictures in the full colors of nature was perfected in 1888, this was by no means the initial attempt that had been made in America toward reaching this goal. In 1851, a clergyman named Hill, who lived in New York, startled the world by announcing that he had discovered a method of photographing in natural colors. Almost every newspaper and magazine in the country gave Hill column after column of free publicity because of his statement that, despite his being a poor man with a large family, he had refused offers of all kinds for his invention because he was determined that it should not be used as a monopoly by any one. A clipping I have here, taken from a paper published late in 1851, says: 'Mr. Hill is pursuing a course which must sooner or later gain him the confidence of his fellow-artists. It is Mr. Hill's intention to take out a patent covering his invention, yet he will act liberally toward his fellow-artists.'

"Hill finally announced that, after much persuasion, he had been fully convinced that his duty to humanity demanded his publishing a book in which would be described his process. In accordance with this resolve, Hill printed a small leaflet in which was given the contents of the forthcoming volume. The price of the book was to be five dollars—first come, first served—with no favor shown to those of low or high degree. After collecting $15,000 in cold cash, Hill finally issued a cheaply printed book on the daguerreotype-process. Thus he proved that, although he might have been a poor man, he was by no means a stupid one; and that, although he might not have discovered a way to make photographs in color, no one could deny that he had found an effective method to make fifteen thousand dollars."

RIVERVIEW KATHERINE BINGHAM

A Home-Made Flashbag

C. A. PIERCE

IT should be stated, in the first place, that this article is not written to advise making a flashbag if one can afford to buy one, except in the circumstance that the pleasure of doing the work will pay for the time used; and, in the second place, a photographer who makes pictures for money, cannot afford to take the time to make a flashbag—not if he has enough work to justify calling photography his business. But it is often the case that one makes pictures for pleasure alone and cannot afford the money to obtain all the photographic apparatus desired; then one's recourse is home-made apparatus. My original intention was to buy a flashbag, and there was no trouble to find a number of good ones on the market; but when it came to the price, I found that I could not afford one. Not that the flashbags were not worth the prices asked; it was merely that it was not expedient to put so much money into an article that would be used but little, and then only for pleasure. So the decision to make a flashbag; and after considerable time expended in unsuccessful attempts, a satisfactory one was made without spending much money. It did take some time to obtain a flashbag that was dependable, however, and a description of the final design is given to enable some other amateur photographer to make a dependable flashbag at small cost without experimenting as much as I did.

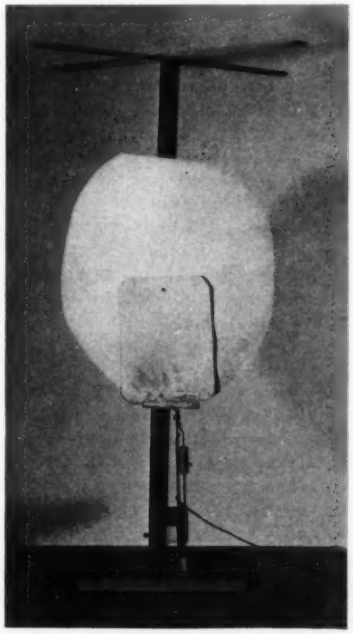

FIGURE 1

FIGURE 2

The flashbag in its final form is built up with an Imp Flashlite and a muslin bag. The Imp Flashlite consists of a powder-pan and a mechanism which operates the shutter of the lens and fires a cap to ignite the flashpowder. The bag is fire-proofed in a solution, the formula for which is given in Number 134, *Photo-Miniature*, p. 91. The text reads as follows: "Water, 1 gallon; ammonium phosphate, 16 ounces; borax, 2

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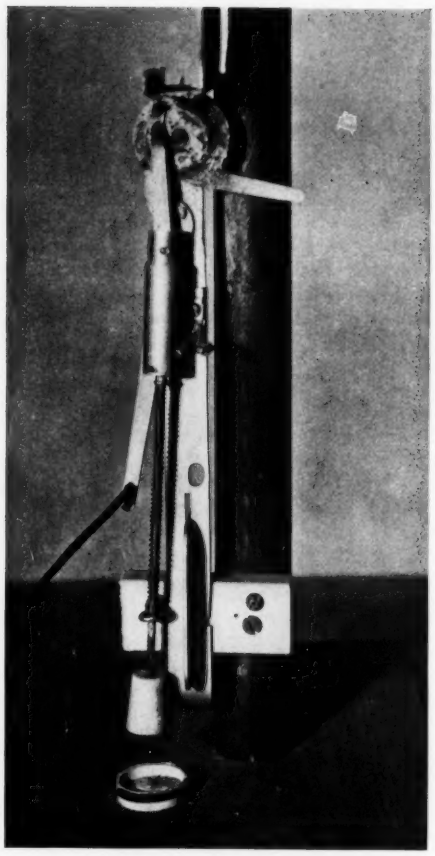


FIGURE 3

ounces. The bags should be soaked in this for half an hour, then wrung out and hung up to dry. Repeat the soaking every month or two." The only reason that this article does not end right here is the same reason that flour, sugar, eggs, etc., do not make a cake.

Fig. 1 shows the flashbag in its final form, the bag being removed to show how the parts are assembled. Fig. 2 shows the apparatus with the bag in position for firing a charge. Fig. 3 shows the reconstructed mechanism for operating the shutter. The base in Fig. 1 is a small board with four rubber feet. The vertical rod is a piece of curtain-pole 3½ feet long; it is fastened with a screw to the base. The Imp Flashlite is fastened to the rod with a screw through the pan, and the lower end is clamped to a short stick, which is fastened to the rod with two screws. Extending up from back of the pan of the Flashlite is a piece of bright tin, about 9 x 5 inches in size, which acts as a reflector and protects the larger paper reflector, which extends upward from back of the tin reflector—the tin reflector was left covered with smoke from a preceding flash to avoid reflections, when photographed. At the top of the vertical rod are two sticks, each two feet long, which are fastened in position with a screw. These sticks can be set at right angles to support the bag, or can be pushed together when the flashbag is to be stored. The muslin bag is 36 inches long and 18 inches square. Several small rings are sewed to the bag near the open end to hold a string with which the mouth of the bag can be partly closed when the powder is ready to be fired, or completely closed directly after the powder has been fired. The Flashlite is operated by pulling a string attached to the trigger on it.

While many pictures can be taken by operating the shutter of the camera with one hand and operating the flashbag with the other, it is sometimes necessary and always desirable, to have the shutter operated by the flashbag. Provision is made on the Flashlite for operating shutters which have either wire-releases or bulb-releases; but unfortunately, long wire-releases cost considerable, and the small air-pump will not operate a Regno shutter for a 5 x 7 rapid rectilinear lens if there are several feet of rubber tubing between the pump and the shutter. Since it is seldom desirable to place the camera close to the flashbag, it is necessary to devise some other mechanism to release the shutter automatically by means of the Flashlite, whenever any but the smaller shutters are to be used.

The small air-pump was changed, in such manner as will be described, so that Regno shutters for 5 x 7 and 8 x 10 rapid rectilinear lenses can be operated by means of a bulb when there are 20 feet of rubber tubing between the flashbag and the shutter. In fact, the device will probably operate these shutters with more than 20 feet of tubing; but 10 and 20 feet are the lengths that have been used regularly. It is desirable to keep a constant amount of tubing between the flashbag and the shutter in order to be certain that, after once adjusted, the shutter will always open immediately before, and close immediately after, the flash.

To change the Flashlite so that it will operate a bulb-shutter at any reasonable distance, the air-hole in the small air-pump was drilled out to admit a rod ⅛ inch in diameter. Then a hole was drilled in the bottom of the plunger of the air-pump, and a brass rod 7 inches long and

1/8 inch in diameter soldered therein—compare Fig. 3. A screw-eye was placed in the stick which holds the lower end of the Flashlite, to act as a guide for the lower end of the brass rod. On the bottom of this rod was placed a half-inch rubber cork. On the wooden base underneath the cork was placed the lid of a small round wooden box, to hold the rubber bulb of the shutter. After the Flashlite is set for a flash, as shown in Fig. 2, the distance between the cork and the lid is just a little less than the diameter of the bulb, so that the bulb is held in place in the box-lid by the rubber cork. The distance between the cork and the lid, before the Flashlite is set, as shown in Fig. 1, is just about equal to the thickness of the bulb when it is squeezed so that its sides touch. To make ready for a flash, the Flashlite is set, thus lifting the plunger, the rubber bulb is placed in the lid under the plunger, a cap is placed in the pan of the Flashlite and powder is spread over the cap. Then the shutter is set. When the flash is fired, the plunger compresses the bulb and operates the shutter. It was found by trial that a small rubber bulb, more or less completely compressed by the plunger, was more satisfactory than a larger bulb which interfered with the satisfactory firing of the flash.

The spring of the Flashlite was found to be too weak for satisfactorily operating the firing-mechanism and compressing the bulb at the same time. The action was such that once in a while the cap was not exploded, or the bulb was not compressed sufficiently to operate the shutter. To make both actions certain, a supplementary spring was made of spring-wire, winding it around the brass rod. This spring is compressed when the Flashlite is set, acting between the bottom of the air-pump and a stop, soldered to the brass rod, just above the rubber cork—compare Fig. 3. This spring assists the action of the normal spring in the Flashlite and makes the action of the firing-mechanism and the action of the shutter certain. Any size of bulb with any reasonable length of rubber tubing can probably be used, if a suitable auxiliary spring is chosen. The auxiliary spring now in use on the Flashlite is made of spring-brass wire, which is a little more than 0.02 inch in diameter. The wire can be wound up tight on a rod 1/8 inch in diameter and then pulled out to the length desired. The bulb now used is oval in shape, and approximately 1¼ inches in diameter and is made of red rubber which has proved satisfactory.

FIGURE 4

The Regno shutters operate satisfactorily with the Flashlite when set for an exposure of 1/5 second. The flashbag has been used only in the evening, and there has been no need to use a higher shutter-speed even when photographing a small, active child. Such pictures are made very satisfactorily with Victor normal grade flash-powder. An easy way to determine whether the shutter synchronizes correctly with the flash, is to set up the camera so that the flash can be viewed through the lens, and then operate the flashbag with a very small charge of powder. The muslin bag can be left off and just a knife-point of powder used. If the shutter comes open so that the flash can be seen through the lens, the shutter is working all right for evening-use, even with normal illumination in the room. If one wishes to use the flashbag as an auxiliary illumination to supplement daylight, it will be sufficient to set the shutter on a faster speed, say 1/10 or 1/25 second, and then find out if the flash can be seen through the shutter as the flash-bag is operated. The time of opening the shutter as compared with the time of firing the powder can be varied somewhat, by varying the distance between the bottom of the plunger—the rubber cork—and the box lid, thus determining whether the shutter shall open during the earlier or the later part of the motion of the plunger, always providing enough motion of the plunger to enable the firing-mechanism to explode the firing-cap.

XUM

With the longer length of tubing—20 feet—some difficulty was experienced at first to get either shutter to open before the flash was fired. The rubber-tubing expanded and absorbed, for the instant, the impulse of air from the bulb, so that the flash was fired before the shutter opened. This difficulty was easily overcome by slipping a rubber band over the finger-release on the shutter, and stretching it over the nipple for the rubber-release—compare Fig. 4. A rubber band must be chosen of such strength that it will almost cause the finger-release to operate the shutter. The air-plunger in the shutter will operate the shutter much more easily and quickly when assisted by the rubber band, than otherwise—the action is not unlike that of a set trigger on a rifle, except that I have had no trouble with premature operation in the case of the shutter. To use the shutter with the rubber band, merely place the selected rubber band in position and then operate the shutter just as if the band did not exist. It is easy to select a rubber band of such strength that, while the speed of action and ease of operation of the shutter is considerably increased, there is no danger from premature operation, even when the shutter is jarred roughly. Both shutters operate satisfactorily with 20 feet of rubber tubing when set for an exposure of 1/5 second if the rubber band is in place.

It will save some exasperation and some expense for powder, if the firing-mechanism and the shutter are tested out together before trying to take pictures. Caps cost 5 cents per box of thirty, and the Flashlite and shutter can be operated many times at little cost, using just a bit of powder only when one wants to find whether the shutter opens at the correct moment. In fact, if one's eyes and ears synchronize satisfactorily, it is perfectly easy to test the synchronism of flash and shutter by placing a cap in the firing-mechanism, and noting whether the shutter opens just as the snap of the cap is heard.

The pecuniary cost of this flashbag is not great. It is impossible to give an exact statement of its cost because a number of parts were picked up around the house; but the following itemized account gives the approximate cost.

Imp Flashlite	$1.75
1-foot brass rod	.05
Rubber cork and feet	.05
Bulb	.25
10 ft. rubber tubing	.50
Tin (use a tin can)	.00
Paper reflector	.00
3½ ft. curtain pole	.00
1 lb. ammonium phosphate	.35
Borax	.00
3 yds. muslin	.75
	$3.70

Hence the cost is seen to be less than $5.00. There is no need to make up at one time more than a quart of the fire-proofing solution, and a pint can be made to fire-proof the bag once. I made a bag with material taken from an old sheet and had the tubing on hand, thus reducing my cost to about $2.50. This bag will not hold smoke indefinitely, but it does well enough so that all but a little smoke can be carried out of the room if the end of the bag is closed immediately after the powder has been fired and the flashbag removed in a minute or two. I expected to experiment a little with material for the bag, but being impatient, one evening, to see how the "thing" was going to work, asked my wife for an old sheet, found that this material worked well enough for my purposes, and have let well enough alone ever since. A new piece of closely-woven muslin would probably full-up enough when washed to hold smoke some time.

As to how often the bag should be fire-proofed—mine has been fire-proofed once. It has been in use several months, and a good many charges have been fired in it. With the parts arranged as described, and with small charges of powder, the fire-proofing is a precaution, rather than a necessity, because fire never reaches the bag. However, remember that trouble usually comes when it is not expected, so don't delay re-fire-proofing too long. There is a chance that once in a while some of the exploding-powder will be blown from the pan and burn as it is thrown about. This is the time that the fire-proofing must be in good condition. The bag will become smudged with continued use and cut down the light transmitted; but it is the front of the bag that suffers most, and the bag has four sides, each of which may be used as the front. When all the sides are black, the bag may be washed and re-fire-proofed.

The fire-proofing solution suggested—there are several good ones—is very satisfactory. A small piece of muslin was placed in the solution and then dried, when it was found to be in such condition that when held in the flame of a match, it would curl up, get red and disappear in the flame; but there was no tendency for the cloth to change at the edge of the flame. In other words, the material would not support combustion at all, and would not burn readily when held in a flame. It is usually desirable to have the flashbag nearer the object than the camera. When such is the case, a focusing-cloth can be spread over the side of the bag which is in position to transmit light directly to the lens. Especially when photographing a person, the bag should not be very far from the object, else large charges of powder will be necessary to obtain fully-exposed

plates. With the bag 6 feet from the object, a fully-exposed head-and-shoulders photograph can be obtained with a rounded salt-spoonful—20 grains—of Victor normal grade powder, a plate whose speed is Watkins 180 and a lens at F/8. A heaped salt-spoonful of powder will give a satisfactory exposure of two people 8 feet from the flashbag with lens at F/16. The bag acts as a diffusing-screen and no other diffusing-screen is needed for ordinary work; but a reflector is usually desirable for lighting shadows.

No attempt has been made to find how large a charge of flashpowder can be fired in this bag. Thirty grains is about the largest charge that has been used, and it took care of this handily. If too large a charge for the bag was fired in it, one of two things might happen; the bag might become scorched, or it might not be large enough to hold the volume of smoke. Provided the fireproofing is in good condition, nothing serious should happen in either case, unless the charge is so large as to blow the bag to pieces. I would not hesitate to try forty or fifty grains in it if the need should arise, but would certainly advise trying it the first time in some place where there could be no possible danger of fire or injury to any person, just to be on the safe side.

While the data for the illustrations have nothing to do with the making, or the using, of the flashbag, they are appended for those who may be interested. All the plates were exposed by artificial light—a 60-watt tungsten incandescent lamp in an ordinary brass reading-lamp with parabolic reflector which was finished on the inside with aluminum paint. For Fig. 1 the lamp was 8–10 feet from the object. The exposure was 10 minutes at F/16 on a Standard Polychrome plate, which was developed for 6 minutes at 68° F. in pyro-soda, Eastman formula, diluted to half normal strength. The print was made on Azo F Hard or Hard X developed in M-Q. The data for Fig. 2 are the same as for Fig. 1. In both cases an auxiliary light was projected onto the background to lighten its tone. For Fig. 3 the lamp was 4–5 feet from the object, the remainder of the data being the same as for Figs. 1 and 2. For Fig. 4 the lamp was 2–3 feet back of the object, and the exposure was 5 minutes at F/16 on a Wellington Antiscreen plate developed for 10 minutes at 67° F. in Ingento M-Q tablets diluted to one-quarter normal strength. The print was made on Azo F Hard or Hard X. A somewhat elaborate system of white-paper reflectors was necessary for illuminating the object, as no direct light from the lamp fell on it. This system of indirect illumination was employed to avoid troublesome reflections and highlights.

PROVINCETOWN HARBOR IN WINTER JOHN R. SMITH

Practical and Humorous Experiences in Photography

Part I. Lenses, Shutters and Cameras (continued)

A. H. BEARDSLEY

NEXT in importance and perplexity is the subject of shutters. To-day there are rotary, automatic, set and focal-plane shutters. The rotary type is familiar to users of all box-form cameras. It "flip, flops" to right, then to left, making an exposure at each "flop." My first experience with one was on my Brownie camera. Somehow I had gotten into my head that it was necessary to move the lever to right, then to left, to make an exposure. The happy result was that every negative contained two pictures of the same subject superimposed; and, of course, the two images were out of register with one another so that each picture caused a dizzy feeling to come over the beholder. Also each picture—due to two snaps—was much over-exposed and sometimes almost black. After I had made some three or four dozen pictures, as described, I discovered my mistake—all by myself, too.

The next type of shutter is known as the automatic, because it does not have to be set for each picture. A depression of the lever or a push of the wire-release is sufficient to make it "snap." With this type there is little danger of making two exposures on the same plate or film—at least, as far as the shutter is concerned. The best known of this type is the so-called T B I which gives Time, Bulb and Instantaneous exposures by moving the indicator to the different letters marked on the shutter. The Time exposure requires one depression of the lever to open the shutter and another one to close it. The Bulb exposure requires one depression of the lever to open the shutter, but the lever must be kept depressed, otherwise by releasing it the shutter closes itself automatically. On some cameras, these exposures are controlled by a rubber bulb and tube or by a wire-release. However, the method of manipulation is virtually the same. The Instantaneous speed is usually from 1/25 to 1/50 of a second—according to make and to how the shutter may be feeling at the moment. It is a good all-around no-brain-work-required sort of shutter. Under the same general classification we have shutters that give speeds of 1/25, 1/50, 1/100 of a second and Time and Bulb; also others that give one second, 1/5, 1/10, 1/25, 1/50, 1/100 of a second and T and B. The two just mentioned are widely used with rapid rectilinear lenses and are, perhaps, the most efficient of their type. Needless to say, brain-work *is* required to manipulate these shutters to advantage.

The set-type of shutter gives speeds usually of one second, 1/5, 1/10, 1/25, 1/50, 1/100, 1/250 or 1/300 of a second and T and B. Every one of these must be set—like cocking a revolver—before they will "snap." These shutters are expensive, but more accurate and dependable than the automatic type.

My first experience with one was humiliating but quite salutary. A group of friends wished to have a picture made at an informal outing. They flattered me by asking me to make the picture. After some four years' experience *trying* to make pictures, I felt capable to snap the group out-of-doors and in bright sunlight. In addition to my photographic experience, I offered the services of my new F/4.5 anastigmat lens mounted in one of the best types of high-speed set-shutters. My friends gathered about to inspect my new camera and expressed themselves as delighted that their pictures were to be made by an expert so well equipped.

To appreciate my position, it should be noted that my new equipment was not a week old in my hands and that all my best pictures had been made with a rapid-rectilinear lens mounted in an automatic shutter which needed no setting. At length, the fateful moment arrived. There were ten persons in the group and I attempted to arrange them in a truly professional manner. Evidently, my preparations made a favorable impression, for they nodded to each other as much as to say, "He knows his business." To meet the wishes of various members of the group, I made six exposures. The lighting was excellent, everyone in the group kept still and the background of trees made a delightful setting. In fact, the veriest novice could have obtained an excellent picture. I packed up my outfit hastily, excused myself on the plea that I wished to develop the exposures at once and hurried home. The result was six beautifully developed plates without the semblance of an image on any one of them!

With four years of photographic experience, a new F/4.5 anastigmat lens mounted in a new high-speed set-shutter and an excellent camera I had failed miserably because I had *not* set my

A WAR-WIDOW
LONDON SALON 1918
LOUIS FLECKENSTEIN

shutter for each exposure. I used a wire-release which made a clicking sound when pushed; but, obviously, it could not trip a shutter that was not set. I had mistaken each click for a snap of the shutter. It took me nearly ten days to muster sufficient courage to tell my friends the truth, and it will take many years for me to hear the last of it as far as they are concerned.

The focal-plane type is used almost exclusively on all high-speed reflecting cameras and on many so-called press-cameras that do not employ the reflecting feature. It is made on the principle of a roller window-shade which, when released, snaps to the top of the window with a startling bang. However, in the case of the focal-plane shutter, this tendency to snap is controlled in such a manner as to give a variety of speeds ranging from slow exposures to as high as 1/1500 of a second and, in addition, provision is made for time-exposures. Briefly, the focal-plane shutter resembles a roller window-shade with slits of different widths cut across it and a mechanism which allows each slit to pass across the window at variable speeds controlled by a variable tension-spring. There are other forms of focal-plane shutters; but the principle roughly described applies to all.

Needless to say, I also had a first experience with a focal-plane shutter. A friend of mine was very eager to obtain a good picture of a certain well-known college track-man. My friend assumed that with my photographic experience I ought to be able to get a good picture of this runner at high-speed. The idea did not appeal to me for various reasons which I dare not make public. Suddenly, a way of escape dazzled me by its very simplicity.

"Look here, old man," I said warmly, "you know I'd be glad to make the picture for you; but as a matter of fact my camera hasn't got a shutter fast enough to catch a snail. Try to get somebody who has a reflecting or other focal-plane camera." My friend looked disappointed; then his face brightened.

"Of course, you know how to run one of these reflecting-cameras, don't you?"

"Certainly," I hastened to reply, knowing full well that there was positively *no certainty* about it, "but—"

"Look here," he broke in, completely ignoring my attempted objection, "I know where I can get a fine new 5 x 7 reflecting-camera. You stay here. I'll get it and we'll go out to the track this afternoon."

"But—wait a moment—I—"

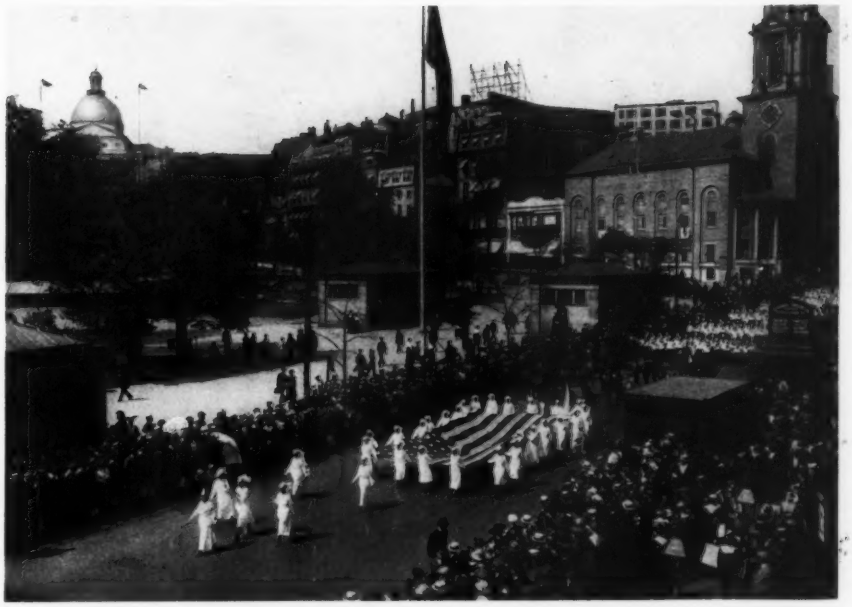
"Shut up! I'll be right back," and my friend disappeared.

Did you ever fondle a 5 x 7 reflecting-camera fitted with a 1C Tessar lens? Well, it is about as handy as a hardware salesman's trunk of samples. Mind you, this is no reflection on its sterling efficiency as a camera; but a man strong of limb and wind should choose it as his *vade mecum*—not I, who barely casts a shadow on the brightest day.

As a matter of fact, I had seen a reflecting-camera before; but I had never used one. I knew theoretically something about its manipulation; but theory and practical experience in the circumstances under consideration were not keeping company. There had been a quarrel—they were not on speaking terms.

When my friend and I arrived at the track, I was so exhausted from carrying that 5 x 7 reflecting-camera, with film-pack adapter, magazine and six double-plate holders, that I did not care who ran or what ran that afternoon. While my friend was away trying to find out when the runner in question was to run, I endeavored to get acquainted with the interior and exterior mechanism of the reflecting-camera. The first thing was to consult a speed-table that in size and comprehensiveness resembled a mortality-table issued by life-insurance companies. From this I set the tension and regulated the size of slit in the curtain. I pressed the lever. Nothing happened. I pressed again; still nothing happened. Finally, I discovered that the mirror was up. By lowering it so that it protected the plate-area from light, the shutter released nicely. This mechanical precaution taken by the manufacturers of the Graflex has saved thousands of plates and films from being light-struck. After several trials, I had the tension, slit-opening and mirror working together very sociably. Next I gazed into the hood. All was dark. I racked the front out as far as it would go. Still, all was dark in the depths of the hood. Then I happened to glance at the front of the lens—it was capped with a neat lens-cap! No wonder there was no light on the ground-glass in the hood. After that, I saw everything bright and clear with the image right side up. This I enjoyed, particularly, as with my own camera everything was up side down on the ground-glass so that, to be sure of anything, I had to stand on my head.

Just then my friend returned and we hurried to the track. With the reflecting-camera all cocked and primed I awaited the psychological moment. The runner came in sight, going at top speed, straining his utmost to reach the tape. When he arrived nearly opposite, I pressed the lever. Thump! The mirror flew up and the curtain snapped down. Again and again I repeated the manœuvre, until I began to feel and

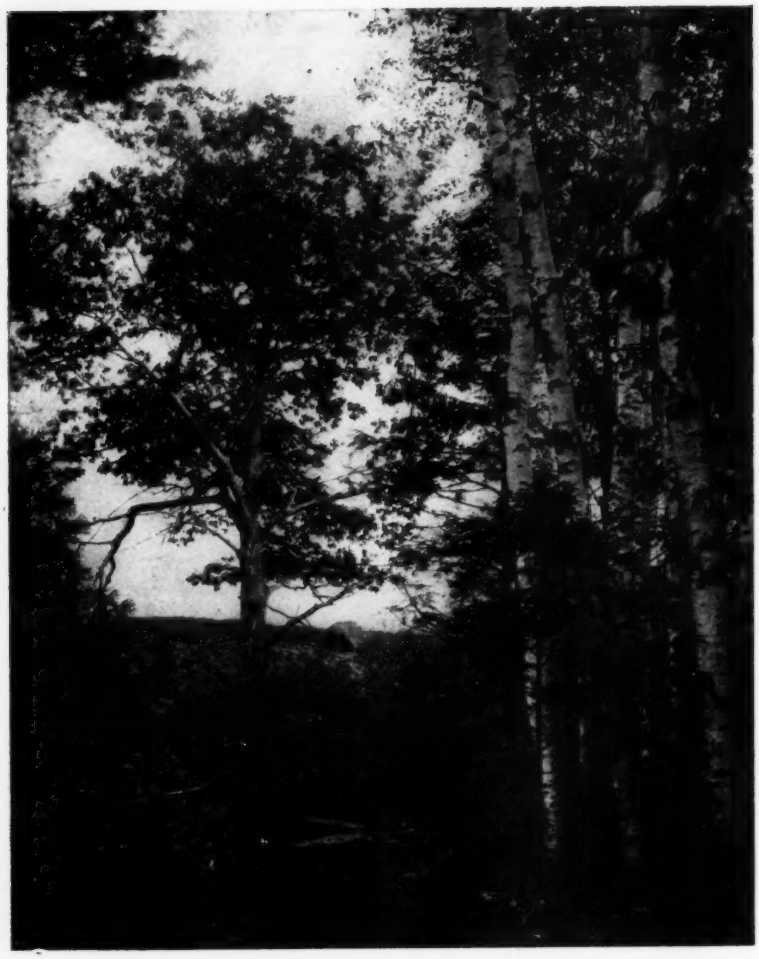


RED CROSS PARADE — E. H. WASHBURN

act like a professional press-photographer. My friend complimented me on my evident ability to handle such complicated equipment and said that he knew how interested the runner would be in the pictures. With twelve plates and a film-pack exposed on this one subject I felt reasonably sure that at least one would be good. As a matter of painful fact, *not one* was good! Like many another novice with a focal-plane shutter, I had assumed that I must use the *highest* speed for fast-moving objects. I had set the shutter for 1/1000 of a second—result, all the pictures were greatly underexposed. At the angle from which I made these pictures, a speed of from 1/300 to 1/500 would have been ample to stop motion and, likewise, it would have given a fully-timed negative. Between this particular friend and myself, the subject of photography is never mentioned.

With shutters, as with lenses, speed is a valuable asset; but it does not follow that this speed should be used at all times just because it's there. Exposures of 1/25, 1/50, 1/100, 1/200, and 1/300 of a second will take care of 70% of the snapshot pictures you attempt, provided you combine these speeds with an intelligent use of lens-apertures. The light-efficiency of the focal-plane shutter is greater than that of a between-the-lens type, and for this reason it is particularly valuable for high-speed photography. The study of the various types of shutters in their native haunts was of inestimable value to convince me that shutter-speeds and lens-speeds were not one and the same thing. If my shutter snaps 1/100 of a second, it does not follow that my lens has a speed of 1/100 of a second. However, if I can get a well-timed negative with my lens at a shutter-speed of 1/100 of a second, it means that my lens has the ability to utilize to the best advantage all light admitted by my shutter at a maximum speed of 1/100 of a second. Lens-speed is based on capacity. In other words, a lens one inch in diameter is slower than a lens of three inches diameter, because less light passes through it than is the case with the three-inch lens. A shutter-speed of 1/1000 of a second might be used with the three-inch lens because it lets in enough light in 1/1000 part of a second to produce a clear image on the plate. With regard to the one-inch lens, this high speed would not permit it time enough to produce an image.

XUM



THE BIRCHES
EDWARD MACDOWELL

Even though I have tried to explain the idea very roughly, remember that lens-speed and shutter-speed are two very distinct factors in photographic success.

My first camera was a Brownie—I do not care who knows it! We laugh at Ford jokes and we poke fun at owners of Brownie cameras; but the fact remains that Ford cars are largely responsible for the motor-trips of hundreds who never expected to drive a Packard, and, likewise, the Brownie camera has introduced photography to thousands who never hoped to manipulate a Graflex. In many cases, the ownership of a Ford or Brownie has been a thorough and practical preparation for greater mechanical or photographic progress; moreover, it has eliminated those who did not care to master more intricate equipment. Therefore, laugh not too boisterously at the next Ford joke, nor smile too disdainfully at the man with a Brownie. My ownership of this camera taught me more about photography, about my own characteristics and about my immediate relatives than I dared think possible.

All box-form cameras belong to the we-assume-all-responsibility-no-brain-work-required type. You do not have to focus and there is virtually nothing to adjust about the lens; the most fatiguing exertion connected with the box-form camera manipulation is the attempt to insert the film. Verily, a box-form Brownie is the most difficult and the most "cussed" camera there is to fill. Where can you find a two-dollar investment that can produce such a hundred-dollar flow of vituperative language! And yet—once you have the pesky thing filled—the Brownie makes excellent pictures. The box-type camera is the equipment *par excellence* for the person that wishes to reduce photographic difficulties to a minimum. Most of these cameras are fitted with meniscus-achromatic lenses and rotary shutters—truly, nothing photographic could be simpler to manipulate. With one of these cameras and a corner drug-store ready to develop-and-print-while-you-wait, the arm-chair camerist may be at peace.

The focusing-type cameras are equipped usually with rapid rectilinear lenses and one of the various automatic shutters. These cameras are easily filled; but the necessity to focus carefully throws a dark cloud over an otherwise happy combination. Focusing is a rock upon which many a promising photographic bark has been wrecked. Briefly, those who can tell at a glance that there is a difference between six and ten feet will focus with comparative ease; those who have no eye for distance will usually fail. The reflecting-camera has been a boon to many "non-focusers"—but, all cannot afford such a camera. Hence, the popularity of the box-form type. Under the general classification of focusing-type cameras are the many foreign and domestic *de luxe* outfits that are fitted with anastigmat lenses and high-speed set-shutters. Correct focusing is no more difficult with these cameras than it is with those of moderate price. The more you pay for a camera, the more thinking you have to do to make good pictures. The greatest fallacy current in photographic merchandizing is that an expensive camera buys immunity from poor results. In all seriousness, I cannot repeat too often that it is the person behind the camera and not the equipment that is responsible for most photographic failures.

Reflecting-cameras have one pronounced asset that those of other types cannot offer; that is the great advantage the user has of being able to see the image right side up on the ground-glass up to the moment of exposure. Weight and bulk out of proportion to the size of picture that they make, are the drawbacks. It is a matter of individual preference. Some would prefer to put up with the weight in order to be able to make every picture sharply focused; others, who are good judges of distances, prefer to carry the lighter cameras. There are some folding reflecting-cameras of foreign manufacture that are remarkably compact; but no novice should attempt to manipulate them without careful preliminary instruction. Another advantage of the reflecting-type is that it uses the focal-plane shutter which appears to give greater light-efficiency and more reliable high-speed service than any other shutter now in use.

The pronounced improvement in the workmanship and technical construction of lenses, shutters and cameras within ten years has resulted in many imitations and duplications. This state of affairs has caused a variety of equipments that is positively amazing to the veteran camerist and completely demoralizing to the timid beginner. However, half the pleasure of buying a camera would be missing if there were five instead of fifty or more models from which to select. The general uniform excellence and efficiency of equipments now on the market make it virtually impossible for even a novice to purchase a camera that will not yield a good picture. To-day, we have the last word in photographic apparatus of every kind from which to select. Photography will and should become an ever-increasing source of pleasure, because it is one of the finest indoor and outdoor sports in the world.

(*To be continued*)

XUM

Personal Practice in Slide-Making

MR. DUDLEY JOHNSTON is a lantern-slide worker of renown, and his exposition of his personal practice, given at the Royal Photographic Society, recently, and described in the *Amateur Photographer*, was, therefore, all the more interesting and valuable. He has gone in particularly for the process of producing blue-gray and blue-toned slides as set out in Wratten and Wainwright's handbook (first edition) on lantern slides. This was discarded in later editions on the ground of difficulty and uncertainty; but Mr. Johnston's experience was that it is a more certain and elastic process than the methods of physical development which they have substituted.

For lantern-slide work, the negative requires to be in sharp focus throughout. Development is carried through with due regard to the illuminant that is to be used to make the slides.

For making the slides, he employs a reducing-camera, mounted on a baseboard about five feet long, with a revolving negative-carrier at one end. The camera has rising and falling front and swing-back—very useful appliances for adjusting the image and correcting the perspective of vertical lines, if necessary. The lens is a six-inch anastigmat, working at F/6.5. He focuses usually at full aperture to get the maximum illumination of the image and then stops down to F/16 to ensure sharpness.

His plates are Paget slow, with rapid plates only occasionally for black tones, but the only "best plate" is the one the worker knows best. He never uses backed plates. His illuminant is a three-tube mercury-vapor lamp, the light being reflected from a white card placed behind the negative. With this light and average negatives, his exposures are

Black tones	7– 10 secs.	Blue-gray tones	1 –2 mins.
Brown tones	30–100 secs.	Violet tones	10–15 mins.

The developer must be adjusted to the exposure and not *vice versa*. If warmer tones are wanted, not only must the exposure be increased, but a corresponding alteration must be made in the constitution of the developer.

For warm tones he formerly used Adurol—an improved form of hydrokinone and free of some of the latter's drawbacks. But if Adurol was not obtainable, equally good results were obtained with a metol-hydrokinone developer with the formula given on every platemaker's instructions. The temperature he worked at as a rule was 70°—sometimes 75°—but then great care was required, as the gelatine became very tender. His plan for keeping the developer at a constant temperature in cold weather is to have a large basin of warm water on the bench and maintain it at 75° or 80° by adding hot water as required, and in this he places all dishes and measures when not in actual use. His aim is so to adjust exposure, developer and temperature as to get the first faint but distinct image on the plate in about sixty seconds after pouring on the developer. In that case, development will be complete in about five minutes. Density is judged by looking through the slide against the lamp. The developer improves with use. He does not throw it away at the end of an evening's work, but leaves it in the measure, throwing half of it away when beginning again a day or two later and making up the bulk with fresh. This gives better colors.

So much for brown tones. As to blue-gray and blue tones, these he obtains by development pure and simple. The formula will be found in the first edition of the book already referred to, and, according to the exposure and the proportions of the developer, this will give colors ranging from black through blue to purple and red. Even for the black tones the exposure required is about four times that which is normal for an ordinary developer. In working this process, he aims again at an exposure which will ensure the first appearance of the image in sixty seconds, using the developer at 70°. Development should be complete in five minutes, and the only reliable method of judging density is to watch the slide by reflected light.

Fixing takes place in acid hypo; the slide is washed, hardened for two minutes in 5% formalin, washed again for five minutes, and dried on the rack. For reduction, he uses hypo-ferricyanide: One dram saturated solution of plain hypo, with two or three drops of 10% solution of potassium ferricyanide, poured in an egg-cup, and filled up with water. The finger-tip is the best means to apply the reducer. For intensification, he finds the acid-silver intensifier valuable because it intensifies the slides without altering the color:

A.		B.	
Metol	88 gr.	Silver nitrate	1 oz.
Citric acid	176 gr.	Distilled water	10 oz.
Glacial acetic acid	1 oz.		
Water	20 oz.		

For use: 1 oz. A, 1 dram B.

It is necessary to apply the intensifier to the dry slide, and the action should not be continued for more than seventy or eighty seconds. Spotting and retouching complete the process.

MT. TACOMA IN WINTER F. B. SCHENCK

The Fixing and Washing of Prints

GEORGE F. STINE

THE fixing and washing of prints is a subject of much importance. The fixing should receive just as much attention as the washing. Although it appears beyond a doubt that more prints are caused to discolor and fade by improper washing than by improper fixing, there are many that are discolored by improper fixing.

Many times the print shows both faults—that is, improper fixing and improper washing. Improper washing, in most cases, is due simply to carelessness on the part of the worker. However, improper fixing, although it may be caused by carelessness, sometimes occurs with the most careful worker. In the latter case it is due usually to the worker's not being thoroughly acquainted with the various chemicals used in the fixing-bath, to the lack of knowledge as to the life of the bath, or to the method of handling the prints while in the bath. It ought to be remembered that prints should be immersed quickly and evenly in the fixing-solution whether or not the short-stop bath is used. The fixing-process is very important with regard to the permanency of the prints, therefore it is advisable, for the first few minutes, to keep the prints moving in the bath so as to ensure even fixation.

The prints should be separated occasionally during fixing and allowed to remain in the bath at least fifteen minutes. However, ten minutes in a freshly made bath will be sufficient, if one is attentive to this part of the work and separates the prints at intervals of one minute. It is possible to fix prints in a shorter time than that stated above, but one should not practice this rapid fixing as sooner or later there will be trouble. A print that is fixed improperly will show this defect usually before reaching the hands

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of the customer. When sensitive silver-salts are exposed to actinic light, those parts of the print that contain such salts will usually turn pink during the washing of the prints, if this work is done in daylight; if not, then the defect will be discovered later during the course of finishing.

One should never use an exhausted bath, as the results obtained will not be permanent. Therefore, if it becomes frothy or suds remain on the surface when the solution is agitated violently, one should discard it and make up a fresh bath. However, a better method to ascertain when the bath has become exhausted is to keep an account of the number of prints that have been fixed in a certain quantity of solution, then when the number has been reached that the particular amount of solution has been tested for, one should discard the fixing-bath. This method also tells one that there has been no waste, and this is an important factor in all lines of business.

As stated before, a print that is fixed improperly contains sensitive silver-salts which upon exposure to actinic light will cause these salts to change to a pinkish tint, the action being slow or rapid according to the amount of sensitive silver contained in the emulsion. It matters not how long or how thoroughly a print may be washed, if there is any sensitive silver contained in the emulsion, those salts will slowly or rapidly change to a pinkish tint. If the print has been washed improperly, one will discover, in the course of time, the appearance of a yellow stain which gradually causes the image to fade; the action being slow or rapid according to the amount of hypo contained in the print. Therefore, it becomes evident that to make a print as permanent as the paper-stock upon which the image is supported thorough washing is necessary. All the sensitive silver-salts must be eliminated from the print that has not been reduced to a metallic form by the action of the developer. After this has been done, it becomes necessary to eliminate thoroughly all the hypo contained in the print so as to ensure its permanency.

Let it be remembered at this point that it matters not how long an exposure has been given a print, if the exposed print is not subjected to the action of the developer and placed in the fixing-bath it will eliminate entirely the silver-salts from the print, leaving a blank sheet of paper. Therefore, it will be seen clearly that the fixing-bath eliminates all the silver-salts that have not been reduced to a metallic form by the action of the developer, even though some of the remaining salts have been exposed.

A properly compounded fixing-bath will answer its purpose for all kinds of developing-out papers. It should contain what is known as a hardener. The hardener is not absolutely necessary for the permanency of the prints, as one can use a plain hypo-bath and obtain prints that are just as permanent as those fixed in a bath to which hardener has been added. The acid hypo-bath is the practical one to use, for the reason that it can be used over and over again until it is exhausted, whereas the plain bath, that is plain hypo and water, must be made fresh every day; in fact, a new bath must be made up just as soon as it becomes slightly discolored. If one should ignore the above instructions, the resulting prints will be found to have a yellow stain, either generally or locally, for the reason that gelatine stains very quickly.

The plain hypo-bath can be used successfully during the winter-months, as all the solutions can be kept at a normal temperature; but during the summer months it is not practical for the reason that in warm weather the prints have a tendency to blister and frill. Since there are no chemicals in the plain hypo-bath to overcome this tendency, the bath becomes impractical—in fact, one should use a plain hypo-bath only when it is absolutely impossible to obtain an acid hypo-bath. This bath is undoubtedly the safest and best to use, for the very simple reason that the various chemicals contained therein preserve the bath until it has been completely exhausted—thereby preserving the color of the print—and it checks development immediately by placing the print in an acid state. Moreover, it hardens the emulsion so as to eliminate frilling and blistering.

If the prints have been placed into the fixing-solution unevenly, there is a possibility of air-bells forming on the face of the print, in which case if they remain during the fixing-period, one will find spots or possibly pinkish spots appearing on the face of the print. This is due to the sensitive silver-salts contained in the parts covered by the air-bells not receiving the action of the hypo. Therefore, the best remedy for this trouble is to separate the prints, occasionally, in the bath so as to eliminate this fault and to allow even fixation. Again, if one fails to separate the prints properly while they are fixing,—even though there are no air-bells,—it will be found that the parts where the prints are sticking together do not allow the bath to eliminate the free silver, and again one finds the same result, that pinkish stain. If one should fail to separate the prints properly while they are washing, one will find that in time those parts of the prints will begin to fade away just the same as prints that have been given but a few rinses of water to eliminate all the hypo. Water cannot eliminate

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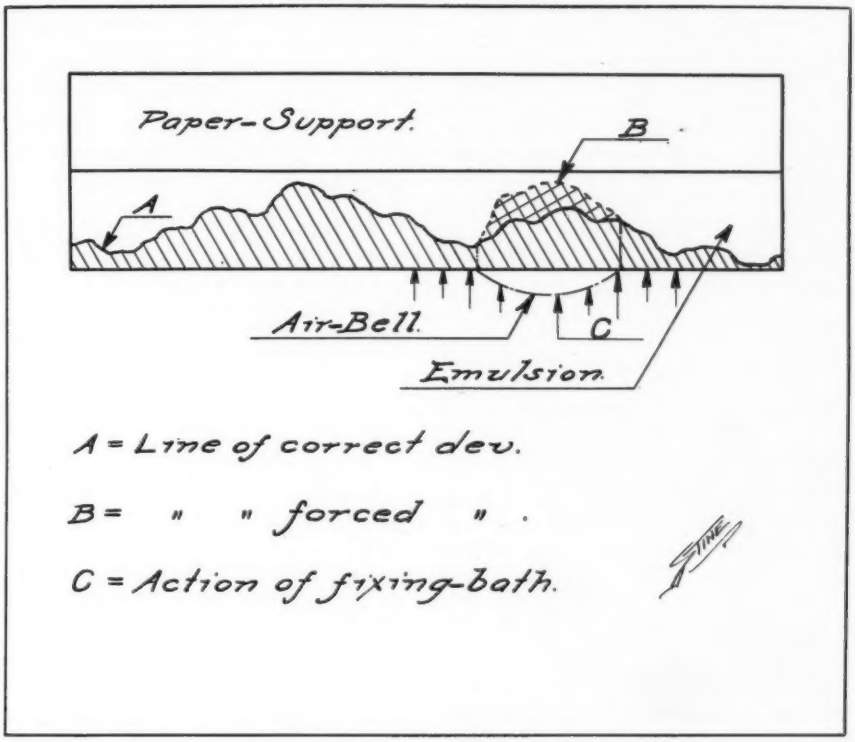
hypo from those parts when the prints are adhering tightly together; therefore, be sure to separate all the prints in the fixing-bath and wash-waters frequently and very thoroughly.

The temperature of the fixing-bath should never be higher than sixty-five degrees summer or winter, and never below sixty degrees. Many times during the summer-months, if one does not use ice to hold the bath at a normal temperature, the prints will turn brown in spots while in the fixing-bath; in fact, in extreme cases the prints are found to be brown all over. This brown stain is caused by the temperature of the bath being too high, thereby making the fixing-bath virtually into a sepia-bath. The high temperature causes sulphurization to take place. Even though the temperature of the bath has gone to eighty degrees, if the prints are fixed hurriedly —as stated elsewhere—no brown staining will take place. The trouble, many times, is due to carelessness on the part of the worker who allows the prints to remain in the warm bath for an unnecessary length of time. This brown stain is nothing more than a sepia-toning of the print, and some method should be used to keep the bath at a normal temperature. If, however, this cannot be done, then the prints must be kept in constant motion for eight to ten minutes in a freshly made bath, after which, they should be washed thoroughly. In case one fails to keep the prints from becoming brown, locally or generally, due to the high temperature of the bath, one need not discard those prints, but simply place them into a hypo-alum bath until the entire print has turned to a sepia, which, of course, will eliminate the fault. However, prints that have been made for black-and-white and run through the sepia-bath will be found to be a trifle light, for the reason that a sepia-tone is light and more transparent than the tone of the black-and-white print. Black and white prints should be made a shade darker if one wishes to convert them into sepia.



After the prints have been fixed properly, they

should be washed thoroughly so as to eliminate all hypo. This should be accomplished either by the aid of running water for one hour or by twelve changes, allowing the prints to remain in each change for five minutes. It matters not which method of washing is used with regard to the permanency of the prints, provided one turns each print over in the wash-water at least every five minutes during the washing period, and a complete change of water at least every five minutes is made.

Occasionally, one will notice dark circular spots on prints while in the sepia-bath. These are impossible to remove successfully unless they are exceptionally small. There are many reasons for these marks; but the most common cause is slighting the handling of prints either in the acid short-stop or fixing-bath. When prints are placed in the bath, they must be immersed quickly and evenly so as to obtain even fixing; but if one slights his work and places the prints carelessly in the solution, face down, there is a possibility of air-bells forming on the surface of the prints and development continuing, thereby causing those parts to be darker in tone, although usually unnoticeable in the black-and-white print. If the air-bell remained during the entire period of fixing, the spot or spots would turn pink upon exposure to actinic light; but in most cases these air-bells are destroyed—in time to properly fix these parts—by the prints being separated occasionally in the bath. As stated above, these spots are not noticeable in the black-and-white print due to the tone; but are very noticeable after sepia-toning, for the reason that sepia-tone is lighter and more transparent than the olive-black and those parts under the air-bells are of a deeper sepia-tone than the surrounding parts due to prolonged development. It should be understood clearly that, to avoid this trouble, one should be very careful to keep the prints in constant motion during the first few seconds when prints are placed in the fixing-bath or acid short-stop so as to eliminate all troublesome air-bells. See Illustration.

The table giving the number of prints that can be fixed thoroughly in sixty-four ounces of bath is based upon the following excellent formula.

Solution A.

Hypo	16 ounces
Water	64 ounces

Dissolve and then add solution B.

Solution B.

Water	5 ounces
Sodium sulphite (dried powdered)	½ ounce
Autic acid No. 8	3 ounces
Alum (powdered)	½ ounce

One should be very sure to dissolve each chemical in the order given so as to obtain an accurate bath. The fixing-bath, as stated before, should be used at a temperature of sixty-five degrees for summer and winter, although a little variation up or down is permissible.

Number of Prints that can be Fixed thoroughly in Sixty-four Ounces of Hypo-fixing-bath

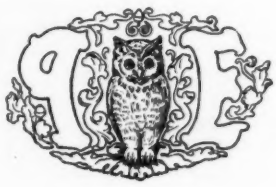
Size of Print	*No. of Sq. Inches*	*No. of Prints*
3⅞ x 5½	21.31	250
4 x 5	20	266
4 x 6	24	222
4¼ x 6½	27.6	193
4¾ x 6½	30.9	172
5 x 7	35.	152
5 x 8	40.	133
6 x 8	48.	111
6½ x 8½	55.3	96
7 x 9	63	84
8 x 10	80	66
10 x 12	120	44
11 x 14	154	34
12 x 16	192	27
14 x 17	238	22
16 x 20	320	17
18 x 22	396	13
20 x 16	480	11

It has been found that sixty-four ounces of hypo and fixing-bath will fix thoroughly 250 (3⅞ x 5½) cabinet-prints; therefore, 3⅞ x 5½ x 250 is 5328 square inches of area that will be thoroughly fixed by such a bath.

Problem. Find the number of 8 x 10 prints that this bath will fix thoroughly.

Solution. 8 x 10 equals 80 square inches in one 8 x 10 print. Bath will fix 5328 square inches, therefore 5328 divided by 80 equals 66 prints.

In bringing this article to a close, I should like to impress upon the mind the fact that the thorough fixing and washing of prints is of vital importance to one's photographic business.



The Soft-Focus Spectacle-Lens

LATIMER J. WILSON

THE painter who desires extreme realism in the rendering of his subjects, makes use of suitable canvas and brushes. He would hardly be expected to work on very coarse-grain material and use huge brushes if the size of his picture were small and the detail fine. On the other hand, if he were an impressionist, the material for his pictures would correspond more exactly to the broad rendering required. He would not try to cover a coarse-grained canvas by making use of miniature brushes, nor would he try for diffused and suggestive effects by using materials that were better applied in the rendering of minute detail.

In much the same manner, the photographer-artist selects the lens best suited for the rendering of his subjects. If he desires scientific accuracy of detail, he makes use of a lens that can produce such detail. But if he is a pictorialist, he makes use of a lens that best produces the charm of mystery and the vibration of sunlight. For the sharply defined detail, there is scarcely any lens better than the anastigmat as it works at a large aperture and is adapted to difficult conditions of light.

The camera-worker who has a fine lens, but who desires the diffusion of the soft-focus, need not go to very great expense to get what he wants. A meniscus spectacle lens can be used with much satisfaction in place of the fine anastigmatic objective, and the expense is trivial.

A lens that is designated in the trade as a meniscus plus 8 can be mounted upon a strip of lantern-slide tape so that it will be exactly centered and can be slipped over the lens-tube of the camera, the regular lens having been taken out of the tube. If a spectacle-lens of approximately the same focus as the combination that formed the original lens is used, the stops indicated on the outside of the tube will be approximate when used with the spectacle-lens.

The four-inch focus meniscus has been preferred by the writer, for several reasons. It provides a maximum speed with great diffusion at about F/4. Enlargements on bromide paper can be made satisfactorily. They correct the slight distortion due to the short-focus perspective. Stopped down to F/16, the plate 2¼ x 3¼ is fairly sharp all over with the brilliancy characteristic of a more expensive lens. But F/8 produces a soft and pleasing diffusion.

There is the usual difficulty of handling any soft-focus lens, aside from the diffusion due to spherical aberration which is an added feature with many of the spectacle-lenses. The principal diffusion is due to the chromatic aberration as is also that of the best soft-focus lenses. The violet rays come to a point in a plane nearer the lens than the green rays. The former are active photographically, whereas the latter, *i.e.*, the visual rays, are not sufficiently so. If the picture is made at the focus indicated by the ground-glass, the photographic rays will be out of focus and the result is likely to be an amount of diffusion that is unpleasant. There is an exception to this, if the exposure is made by a bulb electric light of yellow quality and a color-sensitive plate is used. Very beautiful results with three-second exposures have been made with a 40-watt Mazda on a panchromatic plate, using the visual focus and the full opening (F/4). In this case, the light performs the service of a yellow filter where only a small per cent of the violet rays make the diffusion.

If one wishes to photograph the diffusion as he sees it on the ground-glass at other times, it will be necessary to use a suitable filter and a color-plate. A few experiments will determine the best filter for any particular conditions of light.

When the visual focus and the stop that permits the desired amount of diffusion have been found, the lens should be racked back toward the plate until the image just begins to go out of focus. If spherical aberration is present in the lens, the decision becomes complicated by the factor of diffusion from that source; but experiments will decide again the best amount of change between the visual and the photographic focus. When these points for infinity and for intermediate distances have been found, it will be well to indicate them in some manner upon the edge of the focusing-apparatus.

For interiors at night and home portraiture, where dull lights are encountered and where there is need of comparatively rapid exposures, the spectacle-lens performs wonders if used with a small plate. The writer obtained a 26-inch focus periscopic plano-convex lens and adjusted it in front of the Tessar Ic (F/4.5). This made the Tessar work at a speed approximating F/4 (F/3.9+ extra thickness of glass) and introduced into the finely corrected optical system the chromatic aberration and other defects of the spectacle-lens. But it brought very beautiful effects of diffusion as well as the rapid exposure possibilities for working by artificial light—the ordinary illumination found in the average home.

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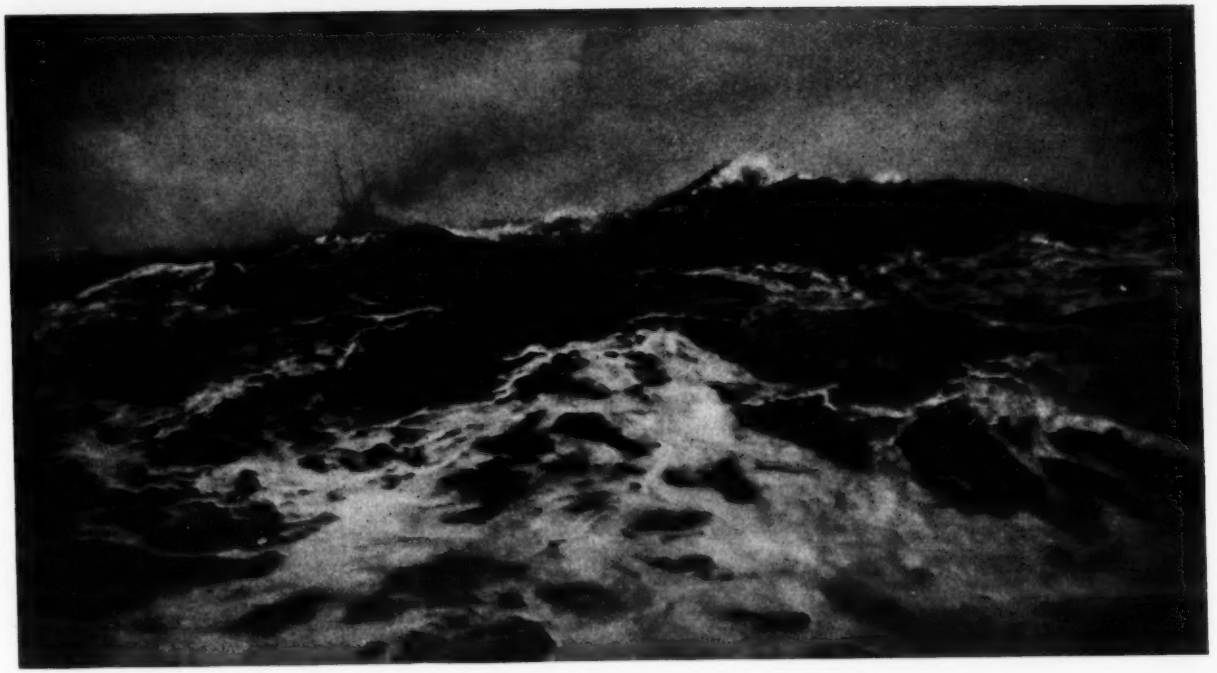

THE FREEDOM OF THE SEAS

F. J. MORTIMER, F.R.P.S.

EDITORIAL

A Hint to Lantern-Lecturers

THE lecturer who frequently talks to the screen, instead of to the audience, is still with us. This is a fault committed by lecturers who use screen-pictures, and is usually an indication of thoughtlessness or inexperience. When such a speaker wishes to emphasize or explain certain points in a picture, he deliberately turns about and addresses his remarks to the screen—quite unmindful of the fact that his audience cannot hear him. The result is the same when, carried away by enthusiasm, he faces one of his favorite pictures and praises its manifold beauties. Now, the speaker should be so familiar with his subject that he will not be obliged to do this, although an occasional glance at the screen for the purpose of verification or inspection, or to refresh his memory, is unobjectionable. And it is perfectly proper for the lecturer to step out of his place of comparative obscurity and extend a hand or the pointer to an object in the picture, provided he does not turn his back on the audience.

A lecturer of the Editor's acquaintance begins one of his travelogs by showing a map of the route. Instead of engaging in the laborious and annoying performance of using a long pointer, he relies entirely on his lanternist, who, using a straight piece of wire, points out the route on the lantern-slide—plainly visible on the screen—closely following the speaker throughout a description that lasts several minutes. Of course, such an expedient requires to be carefully rehearsed and is well worth all the time and effort spent upon it. It spares the lecturer and also produces a good impression. In the projection of motion-pictures, this scheme is hardly practicable, and the lecturer will resort to the tactful use of the pointer.

Screen-pictures that are out of focus, through carelessness of the lanternist, are very annoying to persons in the audience accustomed to see things sharply defined. There is no excuse for fuzzy pictures, provided the slides are uniformly made. As we have pointed out in this department, many times, the fault lies with the lanternist. If his vision is imperfect, he lacks one important qualification and needs a capable assistant. The practice of focusing the initial slide, as a standard for the rest, is a good one; but in determining sharpness of definition, an opera-glass will be found very useful, particularly when the distance from lantern to screen is one hundred feet or more. Indeed, it is a good plan to scrutinize the screen-picture with an opera-glass, occasionally, although there are lanternists who make it a practice to verify the sharpness of every slide the instant it appears on the screen. The lecturer is to be congratulated who has the assistance of so skilled and conscientious a lanternist.

A Missed Opportunity

THE English photographic press is inconsolable—and well may it be—because no photo-pictorial record was made of the meeting between the British and German admirals on the occasion of the surrender of the German fleet—an event of great historical importance. Our English cotemporaries have reason to feel greatly chagrined, particularly, because a painter had been given special opportunities in order that the incident might be perpetuated by the painters' art, whereas pictorial photography was totally ignored. It is argued that the value of a painting, as a record, is very trifling, at least. Actuality constitutes the value of a pictorial record, and it is all the more regrettable that, while a distinguished painter was accorded the opportunity—which, for his art, was by no means a necessity—none of the leading pictorial photographers was given a chance to make that one kind of record, a photograph, which the public prizes as such beyond all others. Moreover, our English friends comment upon the absence of an enterprising photographic organization willing to secure official recognition in high official circles.

That such a state of affairs should exist, comes as a surprise to those who have always regarded the Royal Photographic Society of Great Britain as an organization of power and influence. Its officers and members are men of distinguished achievement in the sciences and pictorial photography, and include the veteran photographic scientific authority, Sir W. de W. Abney, K.C.B., F.R.S., etc., while, chief among its patrons, are their majesties the King and the Queen. It may be that, for the lack of a publicity-committee, the august and venerable society failed to get in touch with the naval high command. Or, it may have been a question of Mahomet and the mountain, and during the interim of one waiting for the other, the golden opportunity slipped away—past redemption.

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ADVANCED COMPETITION

Closing the last day of every month
Address all prints to PHOTO-ERA, Advanced Competition
367 Boylston Street, Boston, U. S. A.

Prizes

First Prize: Value $10.00.
Second Prize: Value $5.00.
Third Prize: Value $2.50.

Honorable Mention: Those whose work is deemed worthy of reproduction with the prize-winning pictures, or in later issues, will be given Honorable Mention.

Prizes may be chosen by the winner, and will be awarded in photographic materials sold by any dealer or manufacturer who advertises in PHOTO-ERA, or in books. If preferred, the winner of a first prize may have a solid silver cup, of artistic design, suitably engraved.

Certificates of award, printed on parchment-paper, signed by the Publisher, and suitable for framing, will be sent on request, and free of charge, to winners of prizes or Honorable Mention.

Rules

1. This competition is free and open to photographers of ability and in good standing—amateur or professional.

2. As many prints as desired, may be entered, ***but they must represent, throughout, the personal, unaided work of competitors. Remember that subjects which have appeared in other publications are not eligible, nor may duplicate prints be sold, or entered in competition elsewhere, before Photo-Era awards are announced.*** Prints on rough or linen-finish surface are not suitable for reproduction, and should be accompanied by smooth prints on P. O. P., or developing-paper having the same gradations and detail. All prints should be mounted on stiff boards.

3. *Unsuccessful prints will be returned only when return-postage at the rate of one cent for each two ounces or fraction is sent with the data.*

4. *Each print entered must bear the maker's name and address, the title of the picture and name and month of competition, and should be accompanied by a letter,* SENT SEPARATELY, *giving full particulars of date, light, plate or film, make, type and focus of lens, stop used, exposure, developer and printing-process. Enclose return-postage in this letter. Data-blanks will be sent upon request.* ***Be sure to state on the back of every print exactly for what competition it is intended.***

5. Prints receiving prizes or Honorable Mention become the property of PHOTO-ERA, unless otherwise requested by the contestant. However, this does not prevent the photographer from disposing of other prints from such negatives after he shall have received official recognition.

6. Competitors are requested not to send prints whose mounts exceed about 11 x 14 inches, unless they are packed with *double thicknesses of* ***stiff*** *corrugated board, not the flexible kind—or with thin wood-veneer.* Large packages may be sent by express.

7. Competitors who have won three first prizes within a twelve-month, become ineligible for two years thereafter. The too frequent capture of the first prize by one and the same competitor tends to discourage other participants and to make the competitions appear one-sided and monotonous.

Awards—Domestic Pets Competition
Closed November 30, 1918

First Prize: Paul Wierum.
Second Prize: Wm. T. Adderley.
Third Prize: Leopold Zwarg.

Honorable Mention: Louis Bausch, Harry Bowse, A. W. Cutting, Ethel Dismukes, James V. Dunham, W. E. Fowler, George W. French, Rayman F. Fritz, Gustav Glueckert, J. E. Horning, Frank E. Ludlum, C. A. Major, Alexander Murray, Wm. E. Neuser, Robert P. Nute, Maude Paget, P. P. Pinckney, J. D. Raynolds, W. H. Sargent, J. Herbert Saunders, W. C. Sawyer, W. Stelcik, C. B. Weed.

Subjects for Competition — 1919

"The Spirit of Christmas." Closes January 31.
"Still-Life." Closes February 28.
"The Spirit of Winter." Closes March 31.
"Rainy-Day Pictures." Closes April 30.
"Miscellaneous." Closes May 31.
"The Spirit of Spring." Closes June 30.
"Landscapes with Figures." Closes July 31.
"Shore-Scenes." Closes August 31.
"Outdoor-Genres." Closes September 30.
"Architectural Subjects." Closes October 31.
"Domestic Pets." Closes November 30.
"Indoor-Genres." Closes December 31.

Photo-Era Prize-Cup

IN deference to the wishes of prize-winners, the Publisher will give them the choice of photographic supplies to the full amount of the First Prize ($10.00), or a solid silver cup, of artistic and original design, suitably inscribed, as shown in the accompanying illustration.

To Readers of Photo-Era

DESPITE the unprecedented conditions brought on by the war, PHOTO-ERA has maintained its supremacy in the field of photographic journalism. The 1919 issues will cover the epoch-making period of reconstruction and we advise subscribers to see to it that their subscriptions do not lapse. PHOTO-ERA will try not to disappoint you in 1919.

TOM SWAN PAUL WIERUM

FIRST PRIZE — DOMESTIC PETS

Advanced Competition—The Spirit of Winter Closes March 31, 1919

WINTER-PHOTOGRAPHY is the exact reverse of photography in spring and summer. Therein lies its fascination. The technical and physical difficulties involved serve but to whet the photographic appetite of the really ambitious camerist. My own picture-making career began in January, because a thoughtful relative made me a Christmas-present of a camera. I did not choose winter-photography; it was thrust upon me. Obviously, I could not wait until spring to make pictures with my new camera; hence, it was picture-making in the snow and cold, or not at all. For this very reason I appreciate the difficulties and likewise the fascination to attempt to express the Spirit of Winter pictorially.

The camerist who makes a success of winter-photography is entitled to assume the same lofty air of superiority that is expressed by the man who is an early riser. Both men are making a success of something that many of us never attempt. To meet with any measure of approval from the jury, the photographer will have to leave his warm hearthstone—or steam-radiator—and get out into the cold and the snow. Of course, it is possible for "arm-chair" camerists to content themselves with photographing the frost on the window-pane, the snow piled high on the door-step or a view from one of the windows. Nevertheless, first honors belong to him who trudges courageously through the drifts and releases the shutter when it is two below zero.

Lest I be misunderstood, let me add that I appreciate the fact that many camerists are physically unable to face severe conditions of weather; also, that many of our readers would have far to go to find a snow-drift. To most of us, winter implies snow and a low temperature; but to many, it is the most beautiful time of the year, when birds and flowers rejoice the heart. For this reason, I believe that it would be of interest to readers and the jury to have some of our good friends who live in Florida, California, Cuba and other warm climates, enter pictures that express the Spirit of Winter as it reveals itself to them. A beautiful day off the Florida Keys, with the brilliant sunshine playing across the water and snow-white yachts reaching away toward palm-laden islands, expresses the Spirit of Winter just as truly as another picture of a man shovel-

ing snow in New York or Boston. The calendar informs us that it is winter, whether we shiver with cold or bask in warm sunshine.

There seems to be a tendency for camerists to make a winter-picture as stereotyped as one depicting still-life. The flower-study and overturned basket of fruit have been done *ad nauseam;* and, now, we have the "snow-picture" with its "soot and whitewash" effect, and the immediate foreground filled with all manner of grotesque footmarks, sled-trails and other subterfuges "to break up the expanse of white." Moreover, the "blacks" in some of these "snow-pictures" are so black that even nature balks at such a disregard of true values. There are no coal-black effects in nature. The careful observer will note that there is always some light in very dense woodlands or deep mountain-gullies so that a *solid, heavy black* does not portray truthfully the actual conditions that exist in nature. Much of this trouble is due to underexposure. The eye sees the brilliant sunshine on the snow and is almost blinded; but the lens sees only the lack of actinic rays, and is not blinded to its inability to produce an image on the plate. In short, not the human eye but the brain is the deciding factor with regard to winter-photography.

The Spirit of Winter can be expressed photographically despite the technical difficulties involved. We, in the northern United States and Canada, instinctively associate this spirit with snow, ice, the bluish-green of the evergreens and the frozen brook. However, winter reaches the city as well; the struggles of steaming horses to maintain a footing on the icy streets; the hurrying crowds bending against the driving snow; the snow-shovelers hard at work clearing the streets; the electric-railway rotary snow-plows throwing the snow high into the air, and other winter-time activities in the city, offer many opportunities to the intelligent and resourceful camerist. In the suburbs and in the country there are the happy children with their sleds, the ice-skaters, skiers, tobogganists, rollicking sleigh-parties and snowshoers to tax the photographer's ingenuity. Along the water-front or down the harbor many subjects of great pictorial value may be found. Ice-shrouded vessels, puffing tug-boats, sea-gulls among the ice-floes and bits of shore-line piled high with ice-jams offer many possibilities. The train-yards of railway-terminals with their clouds of steam and smoke should not be overlooked. Landscapes, immediately after an ice-storm or heavy snow-fall, may be utilized advantageously. It is virtually impossible to point out all the many winter-subjects that, properly handled, would make excellent pictures embodying the Spirit of Winter.

Participants should remember that originality must be combined with sound technical skill. It is possible to make a winter-picture that is original in treatment, excellent in technique and of permanent value to its maker, be he a professional or an amateur photographer.

No matter what the subject may be, the exposure is always of paramount importance. The old, but reliable rule, "expose for the shadows," is still very much in force. In connection with any form of winter-photography, great care must be exercised at all times with regard to the effect that intense cold may have on the lens and also on the shutter.

With regard to development, the aim should be to obtain a fairly thin negative, so that detail in the snow may be had without over-printing the darker masses of the picture. It is a mistake to portray snow-scenes in sepia; even blue-print paper is better suited to such subjects. The many excellent developing-papers, now on the market, enable the camerist to obtain effects that are beautiful and true to life. Careful attention to the exposure, the density of the negative and the strength of the developer has much to do with obtaining the desired softness in the snow and definition of the background.

Strange as it may seem, I have been asked what lens is best suited to winter-photography. Any lens that produces a clear image on the plate may be used for winter-photography and excellent results obtained. I am of the opinion that my inquirer had a ray-filter in mind. Unquestionably, a ray-filter is of great value to emphasize the texture of the snow and to soften the glare of sunshine on ice; also, to aid the camerist to obtain true values in the shadows. Even at the risk of repetition, let me call particular attention to the importance of shadows—their formation, density and direction.

The Spirit of Winter competition offers technical, artistic and physical difficulties to tax the most ardent camerist. Commensurate with the difficulties are the rewards. Winter-photography offers an unequaled opportunity to test the temper of the photographer's steeled purpose to make good. In short, to make a success of winter-photography augurs well for success in spring and summer camera-work. To the man or woman who loves photography, every opportunity to advance is welcomed with eagerness. "Show me the problem and I will solve it!" should be the exclamation of every worth-while camerist.

A. H. B.

Luminous Dials and Labels

Luminous compounds for dials, gun-sights, etc., also for labels in the photographic darkrooms, are made mostly from a specially prepared zinc sulphide, which contains a small amount of sodium or zinc chloride to promote the luminous activity. This zinc sulphide is mixed with about 4 parts per 10,000 of radium bromide or its gamma-ray equivalent, and this mixture in powder-form shows a light-power about equal to that of white paper under the rays of the full moon. If not protected, it loses about half of its light-power in 100 days, but when mixed with varnish the stability is increased about fourfold. Other colloidal bodies also add to the permanence of the mixture.

Bulletin of Pharmacy.

Toning without Gold

It is perfectly possible to obtain prints of a good rich color on printing-out paper without the use of a toning-bath containing gold, and the knowledge of this fact may prove serviceable at the present time, says the editor of *Amateur Photographer.* As is well known, the ordinary combined toning-and-fixing bath will go on toning prints long after the gold is exhausted; but the results so obtained—due to a form of sulphur-toning—have rightly been under a cloud in the matter of permanence. There seems to be no reason, however, why the sulphide-toning method which is now so extensively used for bromide and gaslight prints, should not be applied to prints on printing-out paper, if it is thought desirable. The printing should be carried deeply, and the prints fixed and washed thoroughly. The brownish yellow image obtained in this way, can be converted into one of a pleasant warm color by immersion in a weak sulphiding-solution, without any preliminary bleaching. A complete change into silver sulphide can be brought about by bleaching and sulphiding, and where a permanent result is required, this is what should be done in every case.

IMPUDENCE — WILLIAM T. ADDERLEY

SECOND PRIZE — DOMESTIC PETS

Causes of Impaired Definition

MANY photographers have come to regard good definition as depending entirely on the quality of the lens, but this is only very partly the case. The definition of a first-class lens may easily be spoiled by very simple causes, for example, a layer of dust on the glasses, to cite one of the causes which is often overlooked. Faulty definition, for which one of the best R.R. lenses was blamed and almost discarded by an operator who had previously used and had a preference for anastigmats, was traced recently to the camera-front being loosely supported on loosely-screwed struts. Observation showed that when the front was loosely screwed the action of the roller-blind shutter caused a slight vibration. We have seen many operators work with struts, etc., far too loosely screwed, in some cases so much so that the pressure of a finger was sufficient to move the front- or swing-back. In copying-work, when a long-bellows extension is employed, rigidity is essential, for, if this is not the case, there is a tendency for the front to be drawn by the bellows, which produces a loss of rigidity that would not be evident at a shorter-bellows extension. Another point that needs attention, when work of this kind is being done, is vibration from heavy traffic in the vicinity. Having the original and the camera on the same solid support is a partial, but by no means complete, solution of the problem, which is to be regarded as having everything screwed as firmly as possible. If there is a separate space between the camera and the original, any vibration such as a person walking about the room, if the floor is not particularly firm, has been known to cause poor definition, for which the lens has received the blame. The tripod, again, receives very little attention from many operators. More often than otherwise, its rigidity is cut down in order to permit lightness, or a flimsy tripod is employed for a heavy camera—another fruitful cause of poor definition. Often, too, the operator devotes too little attention to set up the tripod or fix the legs firmly, and when outdoor-work is being done, especially if there is any wind, impaired definition is bound to result.—*British Journal.*

Drying Negatives

IT is agreed that the faster a photographic plate is dried, after being developed, fixed and washed, the better. When available, the electric fan is a most desirable agency to this end. In advising its use, however, authorities do not always mention its ability even in ordinarily clean surroundings, to stir up dust which is deposited on the moist surface of the plate where it adheres, becoming permanently fixed in the emulsion, as the latter dries. If before the wet plates are put in front of it, the fan itself as well as the table or bench on which it stands, is gone over with a damp cloth much of this undesirable result is avoided. Also, if the plates are laid back down on the table so that the air from the fan passes *across* the emulsion, instead of standing them on edge so that the air is driven *against* it, there is less trouble from dust, and drying is somewhat more rapid.

McMORRIS HOUSTON, M.D.

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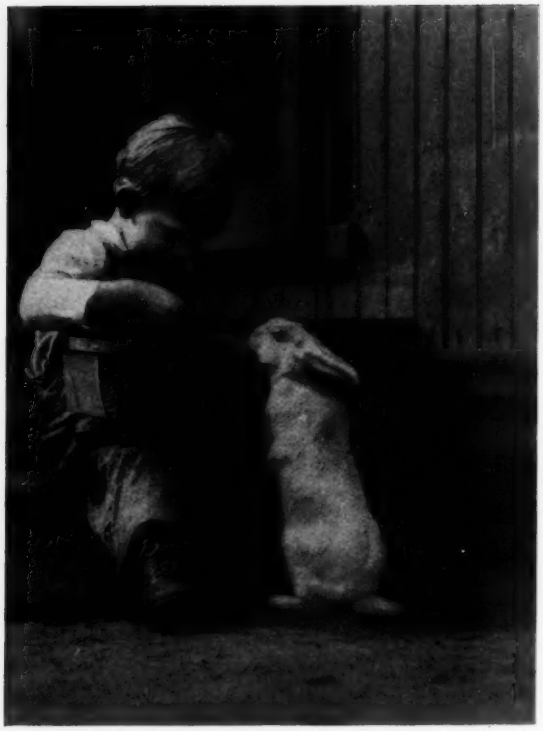
THIRD PRIZE
DOMESTIC PETS



FEEDING HIS BUNNY — LEOPOLD ZWARG

Photographing China

When photographing porcelain bric-à-brac and similar subjects, it is very important to show the pattern clearly and in its correct light and shade, for which purpose a panchromatic plate and a suitable color-screen will be found invaluable. The lighting must be arranged carefully, so as to avoid staring reflections likely to interfere with the proper display of the pattern; but, at the same time, some reflections are a necessity to brighten up and to suggest the character of the ware. It will be found that the best way to get what is needed is to use as large a diffuser as possible, so as to do away with patchy reflections: bearing in mind that the way to dodge reflections which are not wanted is not to attempt to tamper with the reflecting surface, but to remove or cover up the bright object which is being reflected.

The nature of the background will be governed by that of the object. A sheet of card, or a board, over which black velvet has been stretched, makes a very suitable background for many such things; but, in some cases, a plain white card, or gray, may be used.

Vessels with an opening at the top, such as vases, cups, etc., should be photographed with the lens slightly above the top of the opening so as to show it. If need be, the camera-front may be dropped a trifle, so as to bring the picture well on the plate. A fairly long-focus lens for the size of plate adopted should be used to avoid any unpleasant foreshortening.

The Amateur Photographer.

Safe Lights and Panchromatic Plates

Panchromatic means sensitive to all colors, and it is evident, therefore, that the truly panchromatic plate will be sensitive to any darkroom-light, no matter what may be its tint. Experience shows this to be the case; and a safe light, even one made specially for panchromatic plates, will soon fog them if they are freely exposed to it. The secret of the use of any light with such plates, if it is a secret, is not to expose the plates to the light at all in filling or emptying the plateholders, or in the earlier stages of development. When development is nearly finished, they may be looked at cautiously, as the sulphite in the developer deprives them to some little extent of their color-sensitiveness; while even if the light should fog them, being at that stage when the development is nearly over, there is less chance of the fog so caused being developed far enough to become a source of trouble. But in any case the exposure should be very brief.—

The A. P. and P.

THE CRUCIBLE

A MONTHLY DIGEST OF PHOTOGRAPHIC FACTS

With Reviews of Foreign Magazines, Progress and Investigation

Edited by A. H. BEARDSLEY

Watch-Dial Pictures

THERE appears to be a renewed interest in the decoration of watch-dials by means of photography. Several methods may be used, one in particular is very popular. Sensitize a talc'd piece of glass with a collodion-chloride emulsion. When thoroughly dry, print the reduced portrait—using a suitable oval or other shaped mask—tone and fix in the usual way and dry over an alcohol-lamp or set aside to dry. Then soften the film with methylated spirit and soak in water that is acidified with a few drops to the ounce of acetic acid. In this bath the film is floated off easily by gentle manipulation with a camel-hair brush. Pass a sheet of paper beneath the film—while under water—and lift it out carefully. With the film resting on the paper it is easy to cut out the portrait along the lines of the mask with a pair of small, sharp scissors.

Next, place the portrait on its paper-support in a dish of plain water and the film and paper will separate. Take the watch-dial—previously albumenized—and place it beneath the film in the water and with a camel-hair brush gently get it into position, being careful to avoid air-bubbles. Lift the watch-dial from the water and allow it to dry naturally. Clement J. Leaper's formula for collodio-chloride is well suited to this method, and is as follows:

a. Alcohol, 1 oz.; Ether, 1 oz.; Pyroxylin, 12 grs.
b. Silver Nitrate, 60 grs.; Water, 1 dr.
c. Strontium Chloride, 64 grs.; Alcohol, 2 oz.
d. Citric Acid, 64 grs.; Alcohol, 2 oz.

Mix 30 minims *b* with the whole of *a*, add a drachm of *c* and half a drachm of *d*. Shake well after each addition, and coat at once.

Green Color-Screens

IT must be nearly a quarter of a century since Mr. Burchett advocated a green color-screen in place of the usual yellow one for landscape-work. Theoretically, he was wrong, and the theorists lost very little time before telling him so; but in practice the Burchett screens gave very good results, as we ourselves can testify. Possibly this was due to the excellence of the correction given by the yellow element in the screen. Now that panchromatic plates can be bought, in which the red sensitiveness has been carried so far that they show an almost even depth of deposit from one end of the spectrum to the other, Mr. Chapman Jones, writing in "Nature," observes that to secure correct luminosity "it is clear that we must use a color-filter that will gradually tone down the action of the red and the blue, giving a curve of transmission similar to the luminosity-curve of the spectrum—and such a filter will be green." He contends that a yellow filter, such as is adopted generally, will leave the reds—and colors such as yellow, of which red is a component—too light, and suggests that, of the well-known dyes, naphthol green approaches nearest to what is wanted. In actual practice, however, it will be agreed, we think, that such a screen as the K_3 of Wratten and Wainwright, used with either an Ilford or a Wratten panchromatic, leaves little to be desired.—*The A. P. and P.*

Color in Negatives

THERE are many workers—among the professionals, especially—who seem to think that a negative free of color, and black with or without gradations, according to requirements, is the highest desideratum. On the other hand, there are those who prefer some color (uniform, of course) in the negative, but do not always succeed in getting it. The *Amateur Photographer and Photography* states that whether a negative shall be yellow, brown, greenish, or black, is almost entirely a matter of the proportion of sulphite present in the developer; and so may be adjusted to suit the taste of each worker. Except that a very high proportion of sulphite leads to that graying of the image known as "sulphite fog," and that an unnecessary quantity is needlessly expensive, there is no reason why each photographer should not vary the amount given in any development formula at will. What is important, however, is to decide on the quantity to be used and to keep to it; otherwise, there will be trouble from negatives over- or under-developed. In a yellow or yellowish brown negative an image which looks very thin to the eye will give a vigorous print or enlargement; whereas a pure black image of the same visual intensity will be almost too weak to print, except on a gaslight paper that gives strong contrasts. Moreover, in the red light of the darkroom it is not possible to recognize the color which the negative will possess finally, which is another reason why an effort should be made to obtain uniformity in it.

Reflectors in Lanterns

A CORRESPONDENT suggested to us recently, states the *Amateur Photographer*, that it would bring about a great gain in the light given by an enlarging-lantern if the illuminant were provided with a reflector, such as is to be found in most lanterns of the ordinary type. As a matter of fact, although most enlarging-lanterns are not provided with reflectors, there is in some instances a slight gain in the light when a reflector is used. Some illuminants, such as the limelight and the Nernst lamp—to name two examples—do not admit any reflector, since the part that is behind the light-emitting surface is opaque; but others, such as acetylene, are not opaque. That a flame is not opaque, and therefore that the light in a given direction is increased, when one flame is set behind another is well known, though apt to be overlooked; and in such cases there is no reason why a reflector should not be used behind the light. In fact, it often is used. It does not bring about the great increase in the illumination which might be expected, because the only light which counts for much when we are using a condensor is light which proceeds to the condensor from a small central illuminated area, and very little of the light reflected by a mirror follows this path. A parabolic mirror with the light at its focus is quite useless in lanterns in which a condensor is employed, as its characteristic feature is that it sends all the reflected rays forward in one parallel beam; in other words, we get from a parabolic mirror a cylindrical beam of light equal in diameter to the mirror itself, which with a condensor is precisely what is *not* wanted.

BEGINNERS' COMPETITION

Closing the last day of every month
Address all prints to PHOTO-ERA, Beginners' Competition
367 Boylston Street, Boston, Mass. U. S. A.

Prizes

First Prize: Value, $2.50.
Second Prize: Value. $1.50.

Honorable Mention: Those whose work is deemed worthy of reproduction with the prize-winning pictures, or in later issues, will be given Honorable Mention.

Certificates of award, printed on parchment-paper, signed by the Publisher, and suitable for framing, will be sent on request, and free of charge, to winners of prizes or Honorable Mention.

Subject for each contest is ***"Miscellaneous";*** but original themes are preferred.

Prizes, chosen by the winner, will be awarded in photographic materials, sold by any dealer or manufacturer who advertises in PHOTO-ERA, or in books.

Rules

1. This competition is open only to beginners of not more than ***two*** years' practical camera-activity, and without any practical help from friend or professional expert. A signed statement to this effect should accompany the data.

2. Workers are eligible so long as they have not won a first prize in this competition. Winners of the first prize automatically drop out permanently, but may enter prints in the Advanced Class at any time.

3. Prints eligible are contact-prints from 2¼ x 3¼ to and including 3¼ x 5½ inches, and enlargements up to and including 8 x 10 inches.

4. As many prints as desired, in any medium except blue-print, may be entered, but they must represent the unaided work of the competitor from start to finish, and must be tastefully mounted. ***Subjects which have appeared in other publications are not eligible, nor may duplicate prints be sold, or entered in competition elsewhere, before Photo-Era awards are announced.*** Prints on rough or linen-finish surface paper are not suitable for reproduction, and should be accompanied by smooth prints on P.O.P., or developing-paper having the same gradations and detail.

5. *Unsuccessful prints will be returned only when return-postage at the rate of one cent for each two ounces or fraction is sent with the data.* ***Criticism on request.***

6. Prints receiving prizes or Honorable Mention become the property of PHOTO-ERA, unless otherwise requested by the contestant. However, he may dispose of other prints from such negatives *after* he shall have received official recognition.

7. *Each print entered must bear the maker's name, address, instructions, the title of the picture and the name and month of the competition, and should be accompanied by a letter,* SENT SEPARATELY, *giving full particulars of date, light, plate or film, make, type, and focus of lens, stop used, exposure, developer and printing-process. Enclose return-postage in this letter. Data-blanks will be sent upon request.* ***Be sure to state on the back of every print for what contest it is intended.***

8. Competitors are requested not to send prints whose mounts exceed about 11 x 14 inches, unless they are packed with *double thicknesses of* ***stiff*** *corrugated board—not the flexible kind, or with thin wood-veneer.* Large packages may be sent by express.

Awards—Beginners' Competition
Closed November 30, 1918

First Prize: S. G. Kobayashi.
Second Prize: None awarded.

Make Photography a Source of Pride

EVERY year several thousand beginners enter the ranks of amateur photographers. Some do so intentionally and others have photography thrust upon them at Christmas-time by fond relatives or friends. No matter how the beginner becomes an amateur photographer, he should make his photography a source of pride at the very outset. There is but one way to have honest pride in photography and that is to do the developing, printing and enlarging oneself. Of course, it is not always possible to do this work; but every beginner should manage in some way to do enough of it to master the principles involved and to be able to turn out a well-developed negative, a good print and a satisfactory enlargement.

Many beginners would be glad to do their own photo-finishing were they not deterred from doing so by fear of staining, defacing or otherwise injuring private property. As a matter of fact, modern methods of developing, printing and enlarging virtually do away with any possibility of permanent or even temporary injury. Of course, the human element must be considered; but the beginner who is neat and careful need fear no censure from relatives, friends or landlady. The many excellent developing-tanks now on the market—used with a changing-bag if necessary—do away with the need of a darkroom. Almost all printing is done now by artificial light on developing-paper. With regard to enlarging, there are methods and enlarging-equipments galore. All in all, there is no reason why the beginner cannot do his own work from the outset, and thus attain skill and pride in photographic advancement.

A good habit to get into is to refrain from showing any negative, print or enlargement that does not represent the very best effort. Do not show a friend a print that must be accompanied by excuses for its appearance. Let there be no halfway about it—either the print is the very best that could be made or it is not. If it is not—do not display it; better yet, keep it out of sight. I realize fully that the beginner's maiden effort at printing is a great event and one that he feels must be shared with the world at large; but unless he produces a creditable piece of work, it is far wiser to wait until he need make no excuses. Sometimes, as in my own case, the first pictures are very successful and the beginner has every right to be proud of his work. Unfortunately, this first success is often followed by an ignominious failure to repeat the previous performance and again explanations and excuses are in order. Hence, the average beginner will do well to confine his first public photographic exhibition to pictures of which he need not be ashamed.

The photo-equipment needed by the beginner to-day requires very little room and may be had at a moderate price. A developing-tank, film-clips, stirring-rod,

FIRST PRIZE
BEGINNERS' COMPETITION

AICHAN — S. G. KOBAYASHI

graduate, three trays, printing-frame and piece of cheese-cloth will enable the average beginner to obtain excellent results. Obviously, chemicals and paper must be purchased; but it is not necessary to "stock up" as in the old darkroom days. I have developed negatives and made prints in a hall bedroom with no greater water-facilities than a wash-bowl and pitcher. Moreover, no trace of my photo-finishing was left behind. It is a fact that an excellent developing and printing outfit, including necessary paper and chemicals, may be carried in an ordinary suitcase. The simpler the first equipment can be made, the better for the beginner. There are literally hundreds of accessories that may be added later; but the beginner will do well to confine himself to the essentials at first.

Those of us who know something of photography and love it the more we know of it, like the old-fashioned darkroom. By that I mean a room in the cellar or attic especially built and equipped for all manner of photographic work. The beginner who is possessed of time and the necessary affluence will enjoy a darkroom; not because it is a darkroom, but because it is a room that is immune from complaint, interruption or inquisitive visitors. A modernized darkroom need not be a repulsive, evil-smelling "hole in the wall." On the contrary, it may be as light and airy as any room in the house. The difference being that all things within its four walls are photographic and may be so *ad libitum*. The advantage of the darkroom is that it offers a place in which the beginner can experiment or conduct his own researches as long and as late as he chooses. Moreover, he can keep all manner of chemicals, plates, films, paper and other photo-equipment in view and of easy access. He never conflicts with other members of the household and, in short, the modernized darkroom is a *de luxe* "classroom" for the beginner to master photography.

Whatever the photo-equipment may be—humble or luxurious—never lose sight of the fact that it is the finished product that counts. The most beautifully equipped darkroom in the world will, of itself, not produce satisfactory pictures. True, the added conveniences make the necessary manipulations easier and more pleasant; but the beginner's mind and heart must be in the work for him to make good. In my opinion it is always preferable to begin in a modest way and then to add needed accessories as time and finances permit. Photography is not a sport but a science. To master it requires more than just a love of sport or pleasure. Beginners should take their work seriously; for the more interest, study and hard work that they put into photography, the more beautiful, artistic and enduring will their pictures become. There is no need to take the work so seriously that pleasure is eliminated. However, for the beginner's

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own good let him err on the side of serious work, for it will pay him a hundredfold in the end. Let him once take pride in his camera, equipment and pictures and there is no need to stimulate his interest in photography. In it, he will find recreation, education and health. Because of it, he will learn to love the beauties of nature and to understand human nature to better advantage. Best of all, photography will give him an insight into the lives of others, and this experience cannot fail to have a salutary and ennobling effect upon every right-thinking camerist.

A. H. B.

Our Beginners' Competition

In the belief that participants in the Beginners' Monthly Competitions should be accorded greater freedom, we have extended the period of personal practical experience to two (2) years, instead of to *one* year, as heretofore.

Utilizing Old Safety-Razor Blades

Editor of Photo-Era: For efficiency and dispatch in unconventional trimming, discarded safety-razor blades are unique in themselves.

Neither the scissors nor the trimmer were ever found where they would prove the most useful; so I supplemented these two articles by safety-razor blades. By judiciously sprinkling two dozen of these old blades about the house and darkroom, there was always at least *one* nearby upon which I could quickly lay my hands.

One of these blades was always kept on top of the enlarging-easel. When the bromide paper was hung, I used this blade to trim along the orange image thrown upon the paper and, as a result, I always had plenty of test-paper for future enlargements. Moreover, there was little, if any, bromide paper wasted.

I use mounting-tissue almost exclusively and, in this mode of mounting, these blades help me greatly. I trim the tissue roughly with one of these blades—then mount. Any tissue that overlaps is trimmed away by the blade and there is absolutely no tissue, nor mark, to show.

Most etching-knives are too stiff: at least, I have found only one that was not—a safety-razor blade.

These blades are easily sharpened. A piece is broken off when the point becomes dull and a brand-new, needle-sharp point is the result. Of course, the cutting-point is the concourse of the longitudinal and latitudinal sides.

Frank King.

Improvised Trays

Editor of Photo-Era: Did you ever start out on a developing-bee and break one of your trays; or find that the tray you wanted was in use; or that the largest tray you had was just one size too small for the work you were undertaking? You may not be guilty of any of these pin-headed predicaments and yet want to improvise a tray at short notice. Here are two methods I use. They are not patented and, no doubt, others have tried them.

It consists of a good, strong paper-box in the form of a lid from an 8 x 10 dryplate-box, which was set on a warm stove and a block of paraffine rubbed over the bottom and sides until the paper was well saturated. I used this box all summer for a hypo-bath. It is hardly strong enough to carry filled with liquid, but it will last if left stationary or carried on a board.

For larger boxes, I take shallow wooden boxes and line them with oilcloth. I fold the oilcloth in the corners so that there is no seam and tack it along the top edge of the box. I have a series of sizes up to 18 x 24 and find them so convenient, that I forget to use my trays. I have just made two boxes, 4 x 4 x 20—one to develop and the other to fix roll-films. I unroll the film, double it over, back to back, and fasten the ends together. Then I give it a rinse in cold water to soak the film and make sure that it is not going to "kink." Then I put it into the developing-box, possibly putting a board over it and starting the next film. With a ten-to-twenty-minute developer I keep four films going. Occasionally, I rock the tray or turn the films in the developer to avoid air-bubbles or unevenness in development. In the meantime I have two rather expensive developing tanks standing on the shelf above. I presume that without these, the result would be about the same.

C. O. Carlson.

Cold-Weather Conditions

Winter once more reminds us of the disabilities under which the photographer works who does not make due observance of the effect of cold in photographic manipulations. A lack of quality in both negatives and prints is one of the chief defects that occur with the use of cold solutions, and in the case of some developers the action ceases almost entirely. There is also the danger of moisture condensing on lenses, either of cameras or enlargers, or on the condensors, when these are being used in a cold darkroom. Many enlargements considerably veiled over and with every evidence of fog have been sent to us, to explain the trouble; and there is no doubt that in each case it was due to the condensation of moisture on the lens and condensor of the enlarger. Every care should be taken to keep developing-solutions up to a reasonable temperature, certainly not lower than 55° Fahr., if good bright negatives and prints are required. If possible, also, the workroom should be warmed before starting work, not merely from the point of view of comfort, but to avoid such troubles as we have indicated.

The Amateur Photographer.

Acid or Plain Hypo-Bath

Among the topics of discussion at a recent meeting of the Royal Photographic Society was the preference of a plain hypo fixing-bath over an acid one, and vice-versa. In the opinion of F. F. Renwick, F. C. S., an acid bath was found to fix more rapidly than a plain one in connection with negatives whose gelatine-film had become thoroughly charged with the products of oxidation of a developing-agent such as pyro. Because of the fact that the acid fixing-bath produces a solvent action on these products, which are supposed to be in the nature of a stain, the fixing-bath is quickened thereby in its proper function of rendering soluble the unaffected silver bromide in the film. It is obvious that in these circumstances the acid bath has the two-fold advantage of more rapid fixation and more or less positive removal of stain caused by the developer. Under ordinary conditions, *i.e.*, in the case of negatives free of anything more than a minute amount of developer-stain, a plain solution of hypo without any addition has hitherto been shown to be the most rapid in its fixing-action, and on the further ground of its simplicity its chemical behavior is to be preferreed wherever the anti-stain effect is not necessary.

Competent Assistants

It seems as if master-photographers are at last becoming alive to the fact that competent assistants cannot be obtained without some proper system of training or teaching, and that in most parts of the country there are no facilities for such training. In the past, the rate of remuneration for the great bulk of photographic workers has been so wretchedly low that it has not attracted the class of young people who were inclined to spend their spare time in study, and, therefore, the industry has had to depend upon those who drifted into it, and by watching what went on around them managed to fill vacancies as they occurred, often leaving these for some other occupation which offered a better return for their labor. We remember our surprise, when visiting a large factory, at finding an old acquaintance, who had formerly been assistant operator to one of the best-known photographers in England, driving a stationary engine. Upon asking why he had abandoned photography, we were told that the job was worth ten shillings per week more than Mr. Blank had ever paid him, and that the work was less exacting.

It was formerly the custom for photographers of good standing to take "articled pupils," with whom they received a substantial premium, for a period of one or two years, but very often parents and guardians had to complain that the youth was put to routine work, and received little real instruction. In several cases, which have come under our notice, premiums have had to be returned to avoid legal proceedings. Now the custom seems to be to take a youth as a sort of errand-boy or as help to the printer, and let him pick up such scraps of knowledge as fall in his way. His superiors had learned their business in the same fragmentary way, and working by rule of thumb could not impart efficient instruction, even were they disposed to do so, which they seldom were—seeing in the lad a possible supplanter as soon as he knew as much as they did.

Now this has all got to be changed. In the great wave of reconstruction which is sweeping through the country, photographers must play their part; they must help in the work of making the nation one great body of efficient workers, and those who are unable to take part in the training of the rising generation must do all in their power to facilitate the work of those who can. It should be a point of honor in the photographic as in the medical profession for every skilled practitioner to impart his knowledge to those who are to follow him, and to co-operate in such schemes of local technical education as may be formulated. The Edinburgh photographers have foreshadowed such a plan, and, once the way is shown, other districts will doubtless follow. The Ministry of Pensions is doing its best to train men who are incapacitated from following their former laborious occupations in various lighter trades, and photography is one of them. A certain number are already placed in situations and are giving satisfaction, as they acquire by workshop practice that dexterity by which they can utilize the theoretical and practical knowledge they have obtained in the class-room, and we are sure that photographers will gladly avail themselves of their services. One point to which we would draw special attention is that the Ministry will not instruct a man in any trade in which he cannot earn a living wage, the minimum being two guineas ($10) weekly. There should be no difficulty on this score, for in other trades employers have learned that the man who will work for low wages is a bad investment. An operator who uses plates lavishly to obtain satisfactory results, or a printer who wastes paper, is not only a source of actual loss on that account, but he delays delivery and spoils the reputation of his firm by turning out work which is only just good enough to pass. In the past, many photographers have been averse to employing youths who have been trained in Polytechnics and other technical schools, on the ground that the theoretical knowledge so obtained was of no value in everyday work; but this is a mistaken idea. The novice who understands why certain things are done, is much more likely to learn to do them skilfully than if he merely picked up the manipulative part from watching another man who has perhaps totally erroneous ideas on the subject, whereas he will certainly have more pride and pleasure in his work when he has an intelligent grasp of his subject. At one great concern in America all the assistants are put through a course of instruction which would enable them to pass the City and Guilds Examinations here without difficulty, and we should be glad to see the same thing done by our great manufacturers here. On the other side, highly trained demonstrators are placed at the service of professional photographers so that they may learn how to produce the best results from the materials supplied to them, but here such demonstrators are few, and hitherto their energies have largely been expended upon lecturing to amateur societies. It would be a good beginning if a short course of instruction in both the technical and artistic sides of photographic work could be given at the annual Congress of the P. P. A., which we trust will soon be resuscitated, admitting assistants as well as employers. Very much useful work has already been done in this way, but much more has to be done, the great need being that some system should be established rather than that sporadic lectures and demonstrations be given. From the reports of the various American Congresses we learn that the best operators show how they obtain their effects, while others demonstrate the working of plates, papers and developers.

One great failing with many photographers of the old school is secretiveness. If one of those fancies that he has discovered or has imparted to him any method of working which he thinks is not generally known, he will hug it to himself, and while receiving all the benefits of other people's experience grudge his one piece of knowledge, which we may remark is usually something which has been published times without number, but as such people rarely read photographic literature they imagine it to be their exclusive property. We remember some years ago being presented with the formula for the mercuric iodide intensifier under a strict promise of secrecy. The chagrin of the donor on having it shown to him in the Almanac was ludicrous; for years he had mixed it himself so that his assistants should not learn the formula. Such practices do not tend to produce good assistants, who in their turn will strive to utilize for the employer's benefit any useful information they may glean. Let us say again to master photographers that the times call for the working out of a plan of practical instruction that will produce competent assistants, who will do yeoman's service while their employers look after the artistic and financial side of the concern.—*British Journal.*

Fallacies

Hubby: "Why does a woman say she's been shopping when she hasn't bought anything?"

Wifey: "Why does a man say he's been fishing when he hasn't caught anything?"

Or, why does a camerist say that he's been out photographing when he returns with results that are failures?

XUM

OUR CONTRIBUTING CRITICS

YOUR CRITICISM IS INVITED

Whoever sends the best criticism (not over 150 words) before the twentieth of the current month, will receive from us, postpaid, a copy of "Pictorial Landscape Photography" by Paul Lewis Anderson, price $1.50.

With suitable setting, the models—well-posed, natural, and interested in their game as they are—would constitute, though the theme is hackneyed, a pleasing picture. The girl particularly plays her part well. But the poor unobtrusive little things are almost lost in the midst of a foreground and background that resemble Poe's loud alarum-bells in that "They can only shriek and shriek out of tune." The highest tone in the composition is the stand-cover; the lowest, the opaque shadow under the chair. The children, who should be accented, are midway. The chair with its atrocious upholstering pulls the eye to the left margin. And why include windows and lamp when, obviously, neither is the source of light? If—and is the supposition far-fetched—the motive is to portray lamp, chair, and curtains, why not name the picture "Home-Interior" and leave the youngsters out?

Bert Leach.

Will the amateur ever learn what the proper functions of the background are? The function of the background is primarily to "*keep in the background*" and *not* to be clamorous for recognition. In the present instance—assuming that the photographer is trying to show us two children playing checkers—the eye is first caught by the highlights in the curtains, then by the bright figures in the chair, then by the figures in the carpet. In the meanwhile the highlights on the stand and lamp-shade are struggling for recognition. Next we notice the white dress on the girl, whose hand finally leads us to notice the boy who is her partner. At last, by an effort of will, the beholder arrives at the conclusion that the photographer is trying to show us two human figures. The result is the same on the human mind as though one were trying to tell a story or sing a song while an auto is being "tuned up" in the backyard, a noisy street-car is passing and some one is playing a phonograph in the same room—all at the same time. One of the first lessons in composition is to study the background of the proposed picture and to make it subdued primarily, and next to make it harmonize with the main interest by reinforcement or by quiet contrast.

E. L. C. Morse.

In this print Mr. Still has fallen into the error of including too much in his composition. There are many elements which distract the attention from "The Game of Checkers." The chair on the left together with the lamp on the table dominate the print and the children become secondary in importance. They appear dwarfed by the lamp because of its commanding position well up above the children's heads, and directly in the center of the print. The patterns of rugs and lace-curtains show clearly, and are intrusive. It is unfortunate that the girl's head is turned slightly away, making the face merely a silhouette. The vertical lines showing between the curtains are also distracting. I think a little more powder or greater use of reflectors would have softened the harsh glaring whites. As it is the girl's hair-ribbon is almost lost

THE PICTURE CRITICIZED THIS MONTH

against the curtains and the white table-covering stands out sharply against the table-legs. However, Mr. Still has attempted the most difficult branch of indoor-photography and is to be commended for a pleasing child-study.

H. J. Shipton.

Here is a picture divided into two equal parts of light and dark. Two disagreeable upright lines divide the light half into three almost equal parts; these are the first disturbing elements to strike one. Then, the unreality of the scene dawns upon one's consciousness—a flashlight for a subject quite unsuited to that mode of lighting. Naturally, one supposes that children playing checkers would need a continuous source of light, and it is quite evident that the lamp is not throwing out very much. It seems to be there merely in an attempt at composition. The position of the girl is good and her dress carrying down the light, half into the dark half of the picture, helps a little toward saving the situation, in spite of figures and board being in a straight line with the rug—another unpleasing effect. The faults are all exaggerated by over-development.

Maude Paget.

Checkers! And my move! Very well, I'll begin. Right curtain to left curtain, jumping the lamp; left curtain to carpet, removing the arm-chair; and then carpet to right curtain, taking the table. My next play would be to leave the curtain and approach the flashlight-operator. On reaching the square next to him I would, kneeling, plead that he move from the space behind the girl to the one behind the boy. I would explain to him that this would cure the poor girl's black eye—whole face, to be accurate—and tell how the reflection from her dress would light up his face. I am positive that he would change his position when I told him that at present it is hard to see where the boy stops and the carpet begins. Lastly I would lower the top line one inch, darken the curtains—and let the game continue.

Herbert Bernstein.

The girl is fine, nicely placed, comfortable and really interested in her game; it is her move. The boy is uncomfortable in his cramped position, and his use of the left hand is repulsive, unnatural. To avoid hiding the play the photograph has caused the boy to fold his right leg and arm to such an extent that we wonder if he unfortunately has lost these members. And to add to his discomfiture, a large chair cruelly penetrates his shoulder. The opening between curtain too evenly divides background, which is as sharply defined as the foreground. There are no planes and no atmosphere. The stand suggests the idea of dwarf figures. The flashlight, however, has been nicely executed.

Louis R. Murray.

An interesting genre spoiled by a "too-busy" background. The large chair, at left, monopolizes most of the attention and the table and lamp in center comes in for second choice, the lace-curtains, also, are a disturbing feature. Both players seem about to move at the same time, it would be better if one were about to make a play while the other was looking on. The little girl's face is much too dark. The subjects should have been posed in front of a darker and plain background and a reflector used to lighten up the face of the little girl.

Harry G. Phister.

XUM

OUR ILLUSTRATIONS

WILFRED A. FRENCH

THE place of honor in this issue is given to George Alexander, of Chicago, a photo-pictorialist of first rank. He has enjoyed this distinction for many years. In mentioning the Second International Salon of Los Angeles, where Mr. Alexander was represented by specimens of his work, it is only fair to state that this institution honors him as much as he honors it. PHOTO-ERA, which has published examples of his artistry in the past, has always paid tribute to his masterful interpretation of the message of the flower. The impress of his artistic personality is as unmistakable as it is impressive. In the present instance, one is struck by the originality of design, the breadth of treatment and truth of values. The picture makes a delightful frontispiece and cover-decoration, and a fitting introduction to Mr. Kales' review of the Los Angeles Salon. It deserves to be studied carefully by those who practice flower-photography, but who fail utterly to produce a single truly artistic result. It is natural that flower-subjects should excite the camerist's active attention; but it is strange, but true, that relatively few workers succeed in this apparently easy branch of photography. Data: composite print, the blossoms having been photographed indoors in subdued light, with an R. R. lens, at stop F/32, exposure two minutes, 5 x 7 Orthonon plate, pyro. The rest of it was made out of doors on a 5 x 7 plate, pyro. The two negatives were combined, the finished negative being 11 x 14 and printed in gum on Whatman paper. "The Promenade," page 60, is a novel and pleasing departure from the series of architectural masterpieces which W. H. Rabe has contributed to these pages, occasionally, since the close of Panama-Pacific Exposition, at San Francisco. The composition is strikingly original and consistent. Of the two principal groups walking past the beholder, one has just crossed the center of picture, but is deftly held in check by the trio masked by a sunshade, the background being peopled by promenaders, although two of them coming near being beheaded. The pictorial interest is enhanced by long shadows caused by the sun falling at just the right angle. Here, again, the artist showed excellent judgment. In all this motley assemblage, there is not a jarring note.

The tired vagrant overcome by sleep has been a favorite camera-subject of late. First, William T. Starr, then Paul Wierum and, now, Holmes I. Mettee—I mean, these are the artistic interpreters. "Tired waiting for a Job," would have been another appropriate title for Mr. Mettee's highly successful achievement, page 61, in view of the many worthy but unsuccessful applicants for work, these days—but our artist evidently knew his man. Perhaps, the picture was made when men were called to the colors and many failed to respond. Whatever the merits of the case, the "Slacker" is an artistically creditable effort. As in the case of the "Promenade," by Mr. Rabe, solar shadows have been utilized here with obviously happy results. It is easy to see that with the sun near the meridian, or no sun at all, the subject would not have appealed to an artist of Mr. Mettee's perception. Despite the brilliant sunshine, the effect produced is soft and harmonious, without departing from the truth. Incidentally, the grotesque, broadly grinning shadow may be a source of merriment to the juvenile members of the beholder's family. Data: September, 4 P.M.; good light; 4 x 5 Graflex; 9-inch Verito lens (sensible focal length); stop, F/5, 6; 1/20 second exposure; Orthonon plate; amidol; 6 x 9 Bromide enlargement.

In his rainy-day scene, page 62, W. H. Zerbe has displayed a commendable degree of thematic novelty. To have obtained so truthfully exposed a plate in rainy weather and in the afternoon, speaks volumes to the credit of Mr. Zerbe's technical skill. Of course, in the circumstances, it was necessary to employ a large lens-aperture, even at the expense of sharp definition in the immediate foreground, and possible neglect to adjust the camera in order to preserve the vertical lines of the picture—unless the camera lacked the necessary adjustment—resulted in a slight, hardly perceptible variation from perpendicularity. The division of planes has been done admirably. Data: April, 3 P.M.; heavy rain and poor light; 8¼-inch B. & L. Ic Tessar; at F/5.6; 1/25 second; Isonon plate; M. Q.; 8 x 10 Bromide enlargement (salon print).

David W. Bonnar has given us a typical view on the pulsating Buffalo River, page 65. The substantial foreground, with grain-elevators extending along the left, holds and arrests the attention of the beholder, although he is not unmindful of the distant lake-craft at their piers, which the imagination will link to the suggested nearby activities. Thus we have a brief, but complete story of Buffalo's industrial and commercial importance conveyed by a well-conceived and ably executed picture by a photo-pictorialist. Nevertheless, it is a mystery why the artist left the irritating white spot near the left edge of his picture.

There are undoubted pictorial possibilities in Mr. Frittita's "Winding Stair,"—page 66. The subject, as pictured by Mr. Frittita, suggests independence of accepted art-principles, and I can imagine the "trimming-brigade" to be getting ready with suggestions to curtail the foreground and, possibly, the top of this highly interesting and not altogether unpleasing picture. Perhaps, the window, the brilliantly lighted section overhead, and the figure centrally posed against the arched niche are placed too closely together to correspond to any well-ordered and eminently artistic design. The two white globes may have been left in the picture to relieve the impenetrable blackness that marks the whole upper right corner of the view; but their obliteration—easy of accomplishment—might be viewed with approval by the critical beholder. Novelty of subjects we must have, if pictorial photography is to live and to advance; but this can be accomplished without violating the rules of pictorial composition. All the same, Mr. Frittita deserves commendation for trying to break away from conventionalism and for giving us at least an interesting and technically excellent study in chiaroscuro. Data: 5 x 7 Graphic; 9-inch Verito; at F/5.6; 3-time color-screen; Orthonon plate; pyro, in tray; 7 x 10 Artura Carbon Black.

The Venetian Water-Jar—as Mr. Kales suggests in his impression of the picture—might secrete a wealth of romance and adventure; but what the little boy finds to admire is not quite clear. To be perfectly frank, the figure appears somewhat *de trop*. The jar is quite able to assert its artistic importance un-

aided by any adjunct; and the setting, disregarding the boy, is happy and appropriate. Data: subject in America, joint work of two photographers; August; dull light; 3A Kodak; Zeiss lens; at F/8; from original (3¼ x 5½) negative a contact transparency was made and from this an enlarged 8 x 10 paper negative; then a contact print, in the regular way, on P. M. C. No. 8.

Katherine Bingham's Riverview, page 68, serves its purpose as tail-piece, very appropriately, although it could easily have been trimmed, if deemed advisable, so that the distant shore-line need not divide the picture in two equal horizontal parts. Critical observers will please note that this possible fault is neutralized by a lowering of the shore with its reflections, at each side of the river. No data.

The harbor of Provincetown, Mass., the first haven of the pilgrim-ship "Mayflower," 1620 A.D., is sometimes choked with ice-floes, when the winter is particularly severe. One of these occasions has been pictured by John R. Smith of Provincetown by an interesting series of postcards, like the one on page 73. Data: February, noon; good light; 3¼ x 5½ Graflex; 7-inch Goerz lens; at F/16; 1/25 second; Eastman film; metol-hydro developer. Cyko paper. The ice left grounded by the ebb tide assumed many grotesque shapes. The floes were from twenty to thirty feet thick.

"A War-Widow," page 75, was hung in the recent London Salon, where it created favorable impression. In his review of the Salon pictures, in the *British Journal of Photography*, Mr. Tilney mentioned Mr. Fleckenstein's in terms of high praise, and deservedly so. The picture was also published, with a long and flattering analytical review, in *The Amateur Photographer and Photography* of November 20 last. There is a consistently sad expression in the woman's face —a look that haunts the beholder. Viewed from an artistic viewpoint, the picture has all the characteristics of Mr. Fleckenstein's professional skill and interpretive powers. The lighting is a notable feature of this triumph of studio-portraiture. Data: made in professional studio; side-light, afternoon sun coming in; short bulb-exposure; P. & S. Semi-Achromat; at F/6; Central Comet Plate; pyro; 8 x 10 print on Artura Carbon Black, E, Rough Buff.

When I referred in complimentary terms to the superior technical skill of Ernest H. Washburn, of the Y. M. C. U. Camera Club, Boston, I promised myself the pleasure to publish, as soon as practicable, a print of that artist's remarkable series of a Red Cross Parade. It appears on page 77. If any one can detect a single technical flaw in this interesting view, let him point it out. Data: May 18, 1918; 3.10 P.M.; sunlight; 5 x 7 Century Folding; 7-inch Ross-Zeiss Convertible, VIIa; at F/11; 1/50 second; Standard Orthonon; Eastman Tank Pyro Powders, standard time (20 minutes, 65° F.); contact Azo E, Hard Medium; M. Q. tubes; exposure made from second-story window on Tremont Street.

America's greatest musical composer, the late Edward MacDowell, was an ardent devotee of the camera. His love of picture-making was but another form of artistic expression, for he was a passionate lover of nature—the woods, in particular. I had the rare privilege to visit him several times in his lodge concealed in the woods near his farm, at Peterborough, N. H., where he composed many of his finest works, including those delightful idyls and sketches for the piano, "To a Wild Rose," "To a Water-Lily," and others. The present picture, page 78, breathes the spirit of the nature-lover, and evinces a sound knowledge of art-principles and an eminent degree of technical ability. No data.

The friends of Herbert W. Gleason, the eminent photographer and lecturer, will be interested to know that he is now among the National Parks of the Yosemite—Mount Rainier, Glacier, Yellowstone, Sequoia and others, photographing their majestic beauties in winter-dress. Among the principal mountain-peaks which Mr. Gleason intends to explore and photograph especially, is Mount Tacoma (officially known as Mt. Rainier), pictured already many times by eminent camerists, including F. B. Schenck. Mr. Schenck is domiciled at Tacoma, Washington, not a long way from the famous peak, and can study advantageously its character and moods, so that it is fair to assume that his picture, page 81, is as typical as it is a superbly interpreted portrait. The radiant highlights and gradations are beautiful and spell supreme technical skill. Data: January, 1.30 P.M.; bright; 1/5 second; Century camera reconstructed, 5 x 7; 8¼-inch Goerz Dagor lens; at F/16; B. & L. color-screen; Hammer D. C. Orthochromatic plate; pyro-soda developer; 11 x 14 enlargement on Industro.

It has been my pleasure to refer many times, and with sincere admiration, to the splendid artistry of F. J. Mortimer, which is familiar to every serious photographer throughout the world. A representative specimen of his work glorified September PHOTO-ERA, 1918. "We are ready now!" will not be forgotten. It enjoys historical as well as artistic importance. Associated with Mr. Mortimer's photographic mastery of the seas, is his "Freedom of the Seas," a picture of signal power, beauty and significance. Page 86. The huge, swirling, foaming masses were under the complete control of the master-camerist, for the result is a successful and impressive pictorial composition. No data.

Advanced Workers' Competition

THANKS to competitors' observance of our editorial suggestions regarding the interpretation of the subject, "Domestic Pets," the entries were eminently satisfactory. This is evident from the high artistic quality of the winning pictures. The Honorable Mention pictures, too, were excellent, and several of them have been halftoned with a view to being published during the current year.

Not content with winning the PHOTO-ERA prize-cup, not long ago, Paul Wierum set out to win another and—succeeded. Examining his successful print, on page 89, one is sure to admire the handsome creature which is convincingly a household pet. There is no frightened, anxious look about this cat, but rather a contented, self-satisfied air. The fluffy, silken character of the fur-coat of Mr. Tom Swan has been rendered with supreme skill, which, together with his aristocratic appearance and graceful attitude, makes for an artistic achievement of which Mr. Wierum may well be proud. Data: 10 A.M., in the shade; No. 1 special Kodak (2¼ x 3¼); Zeiss-Tessar Ic; stop, 4/5; attachment Eastman Portrait-Lens; 8½ x 11 Cyko Buff enlargement.

Of unusual interest is Mr. Adderley's group, on page 91. It is a little suggestive of Landseer's pictures, but independently original and expressive. Observers interested practically in animal-photography will undoubtedly wonder how the artist contrived to introduce the kitten, whose close proximity does not seem even to interest the huge St. Bernard. Combination-printing or double exposure would appear to be

(*Continued on page 110*)

ON THE GROUND-GLASS

WILFRED A. FRENCH

Humor at a Lantern-Lecture

Isn't it fortunate that there is still a humorous side to the serious illustrated lecture? The audience never fails to appreciate a "break" by the speaker, provided that it isn't the "limit." Sometimes, a "break" serves to "break" the possible monotony of the lecture, as happened to Fräulein ——, who was admired, until the outbreak of the present war, for the remarkable beauty and accuracy of the coloring of her lantern-slides of art-subjects. Although a resident of this country for many years, and well informed on matters of art, she never acquired a mastery of the English language, either in diction or pronunciation. She spoke always with a decidedly Teutonic accent and in a typically Teutonic manner, for which reason, I suppose, she was addressed invariably as, "Fräulein."

One evening, when she was describing the art-treasures of Genoa, she projected a superbly colored slide of Guido Reni's St. Sebastian. She waxed enthusiastic and, pointing out the admirable flesh-tints of the martyred saint, exclaimed: "Look at his beautiful meat—the beautiful meat, I tell you!"

The Meat in the Cocoanut

Speaking of meat—with due regard for the rules of conservation—I am reminded of a review, written by a highly esteemed brother-publisher, of E. G. Lutz's little book, "Practical Art-Anatomy," in which the writer states, quite ingenuously, that "the photographer will find in this 'meaty' handbook just the information he needs."

Emperor William as Art-Connoisseur

It was in 1895 that I attended an international exhibition of paintings in Berlin. My companion was Carl Meisel, the art critic of the *Dresdener Neueste Nachrichten*. Among the pictures on this occasion which attracted considerable attention were several by an eminent French painter of historical subjects named de la Fosse, whose specialty was the French Revolution. Mr. Meisel was interested particularly in the scene where Louis XVI. was being conveyed to the guillotine. After gazing for some time at this impressive picture, I moved several feet away to study another work by the same artist, "The Celebration of the Goddess of Reason," and, after the lapse of about ten minutes, I rejoined my friend, who seemed a little agitated. Supposing that he had been affected by the realism of de la Fosse's pictures, I explained that I also was much impressed by the genius of the French artist. "That isn't it," he hastened to reply. And then he told me that, while admiring the resigned expression of the doomed king on his way to execution, and supposing that I was still at his side, he had remarked, "Well, what do you think of this picture?" And the answer came back, in a cold-blooded voice:

"We shall see to it that such things do not happen in Germany."

Mr. Meisel looked up with astonishment to find that it was the German emperor, Wilhelm II, who was speaking. It seems that, quietly and unnoticed, he had taken his place beside Mr. Meisel, and the latter naturally supposed that he was addressing his question to me. What was his astonishment to hear the response above-quoted!

Lantern-Slides at Motion-Picture Houses

My criticism of poorly colored lantern-slides, printed in the last issue, found sympathetic appreciation among many patrons of motion-picture theaters and, doubtless, will lead not only to direct complaints to the managers of such places of amusement, but to practical demonstrations by skilled amateurs of high-class coloring of topical lantern-slides.

The English press is outspoken with regard to the very inferior quality of lantern-slides exhibited in English theaters and music-halls, but particularly to the atrocious screen-portraits of the prominent personages identified with the present war. Indeed, and in most cases, these projected portraits are so bad as to be utterly unrecognizable, and it is only when a portrait is accompanied by a lettered title giving a clue to the identity of the original that any applause is evoked. English writers do not appear to have an exalted opinion of the artistic intelligence of theater-managers, who, however,—at least, in America,—are sufficiently alive to the profitable side of their business, as to provide what they think is desired or approved by their patrons. Of course—and more is the pity—many managers or owners of motion-picture theaters are devoid of artistic sense; but they should be made to recognize that it is poor business to provide screen-pictures or lantern-slides of such poor quality, as to mar an otherwise highclass and satisfactory motion-picture entertainment.

German Love of Beauty

To show that, in spite of the immense, irreparable damage the German soldiers have done to France—devastation and ruin—the German people are extremely fond of natural beauty, we reprint a request that appeared in the October edition of a prominent German photo-journal:

"The Beauty of a German Home. Our co-worker, Herr Rudolf Zimmermann, writes from the front that he would like to deliver an illustrated talk on the beauty of the German home, before a gathering of our soldiers, and to this end he solicits contributions of lantern-slides from our readers. We are glad to support this request and hope that these 'Liebesgaben' (gifts of love) will be forwarded to Herrn Zimmermann in large numbers. What is desired, particularly, is mood-pictures of landscapes and the like. Slides of standard size are requested. Address: Herrn Rud. Zimmermann (one-year volunteer), Forest-Administration, Bialowiec, Russia."

Zimmermann, Zimmermann? That name has a familiar ring. Wasn't he the German diplomat and propagandist who arranged that Mexico should acquire certain southwestern American states, and whose machinations came to a sudden end?

PHOTOGRAPHIC THRIFT

Whoever sends us a letter that we consider of practical photo-saving value, will receive from us a six-month subscription to PHOTO-ERA.

Practical Saving-Methods

EDITOR, PHOTO-ERA:

In these days when "Economy" is the watchword of the nation, we should strive to economize in our hobbies as well as in our daily life. Those who turn to the camera in their leisure-moments, as well as those who make it a means of earning the "daily bread," can "cut the cost" in various ways. The use of a "universal" developer, such as metol-hydro or ortol-hydro is a means.

Using the miniature camera, or kits in your plate-camera, and subsequent enlargement to the desired size, cuts the cost of the larger-size negative material. The use of test-strips in printing and enlarging, saves valuable paper.

The constant use of an exposure-meter, and keeping a record of exposures, so that one can check up mistakes, in the long run will save much otherwise-wasted film or plates.

Strive to make every exposure the beginning of a worth-while negative, and last but not least, the use of a fresh fixing-bath spells "PHOTO-THRIFT."

F. L. EVANS.

EDITOR OF THRIFT-COLUMN:—The only directions for photography which I received with my first camera were, "When you have used half a gross of plates, you will begin to get results." I had decided that that amount would have to be doubled, when a friend sent me a copy of a photographic magazine. I sent a year's subscription for it the next day. Later I received a copy of PHOTO-ERA and immediately subscribed for that. These magazines, with the purchase of the best three works on pictorial composition, have been my greatest Photo-Thrift.

All my 6½ x 8½ plate holders are fitted with 5 x 7 kits; the 5 x 7 holders with 4 x 5 kits, so that I can use a 4 x 5 plate with my 6½ x 8½ camera.

Carbon-strips from Kodak films are saved for transfer paper; artistic blank covers of catalogs for mounts and booklets, and PHOTO-ERA envelopes for containers and wrappers.

MYRA D. SCALES.

EDITOR PHOTO-ERA MAGAZINE:

Constructive criticism is undoubtedly a good thing; but the "trimming-brigade," as Mr. French calls it, is responsible for much waste of perfectly good paper. For instance, take Mr. Cline's picture, page 321, December PHOTO-ERA. It is suggested that one inch be trimmed from bottom of his picture. I admit and so must Mr. Cline, that this improves the picture wonderfully. Assuming that he has made a dozen prints of this attractive picture, there's a total loss of twenty-eight square inches trimmed from the reproduction and, consequently, a total loss of about forty-five square inches from the original prints, that is, provided he trims them down to make them look well. There's a loss of enough good Azo paper to make three prints, postcard size. All of this Mr. Cline could have saved by composing his picture with less foreground.

What is true of Mr. Cline's picture is true, in a greater or less degree, of other pictures criticized ever since "Our Contributing Critics" came into being; for in that department nearly every picture is to be improved by trimming. This, my friends, shows the necessity of composing your pictures according to the valuable suggestions offered in PHOTO-ERA, from month to month.

GERTRUDE M. WILCOX.

EDITOR PHOTO-ERA MAGAZINE:

An amateur who develops but a few small prints at one time can use the M-Q developer, which comes in glass-tubes, most economically and conveniently by dissolving the contents of a tube in about one quarter the water specified and bottling in ½-oz. bottles—corks boiled in paraffin. To illustrate, dissolve one tube of Eastman's Elon Quinol developer in 2 ozs. water—the normal amount is 8 ozs.—and bottle in four ½-oz. bottles. To use, dilute contents of a bottle with 1½ ozs. or 3¼ ozs. water, the latter amount being suitable for much work on many papers, such as Special Velox and Azo. For bromide paper 7½ ozs. water may be used. This procedure eliminates spoiled developer, and saves paper by ensuring good tones through the use of fresh developer.

CLARENCE A. PIERCE.

EDITOR PHOTO-ERA MAGAZINE:

The user of a roll-film camera is more apt to waste than the user of a plate-camera, and I would like to coin the following slogan for all who use the former type of camera: "WATCH THE LAST FILM ON THE ROLL." How many times do you hear "I'll just shoot this one and finish the roll, in order to get the film developed and see the result." There must be hundreds of films wasted for this reason alone, and I would therefore suggest that the last film should have just as much care as the first, and not be wasted in order to complete the roll.

Again, do not make pictures unless they have pictorial interest. By this I mean do not snap at anything. I was shown eighteen pictures recently of a parade, all made from the same standpoint on the same day. They were almost as though printed from one film, the subject being virtually the same, right through.

The man that has to compose his picture on a ground-glass is naturally far more careful, and does not expose unless he is reasonably sure to obtain a picture; but not so the user of the roll-film camera—it is too easy to snap the shutter. Let some of those who use roll-films carry a 5 x 7 plate-camera on a photographic trip, and I venture to say that they will agree with what I say, especially as kits can be used and 4 x 5 plates employed for economy, and the larger size used only when necessity demands.

J. V. DUNHAM.

XUM

ANSWERS TO QUERIES

H. S.—**There is no practical method of making photographs direct on paper in the camera,** provided you mean positives. Of course rapid bromide paper, which has an emulsion virtually like that of a slow dryplate, may be exposed in the place of a plate or film in the camera, but this yields a negative upon development. This can be transformed to a positive by reversal, but it is a bothersome process, and good results are not always assured. Also the image would then be reversed left for right. Of course the paper negative could be rendered transparent, and printed from like a glass or film negative.

Astigmatism is a defect in a lens by which it is prevented from rendering vertical and horizontal lines with equal degrees of sharpness. It is more noticeable towards the edges of the field, the center being quite free of it. **A stigmatic lens** is a lens free of astigmatism. In addition, it is free of chromatic and spherical aberration.

A. P. W.—**With regard to F/7.5 and F/3.7 anastigmat lenses,** it has been our experience that these cheaper lenses, as supplied for Kodaks, equal the definition of higher priced lenses. However, as you say, they are not as fast, and in addition we would call your attention to the fact that many of them do not include as large an angle nor could they be used on a plate larger than that for which they are listed. Also, should one of these lenses be used on another type of camera the chances are that the results would not be as satisfactory.

These cheaper grade anastigmat lenses are built for a definite purpose. They are similar to the lenses that are put into the No. 2 Brownie cameras. We are all obliged to admit that these cameras under favorable conditions do remarkable work. This is due mainly to the fact that the lenses fitted to these cameras are made especially for the purpose. If they are removed or used elsewhere, in another equipment, they do not give such good results.

There is no question, but that the famous anastigmats, such as Carl Zeiss, Goerz, Voigtländer, Cooke, Ross and others are the best lenses manufactured. Roughly, one might say, that most of us would prefer to ride in a "twin six" Packard, but it does not follow that the owner of a Ford is not just as able to reach a given point and enjoy the scenery as the owner of the Packard. However, the owner of the Packard has advantages in efficiency, comfort, speed, etc., that the owner of the Ford does not possess.

Although this is a rough idea, we hope that you get the point. It is not necessary to obtain a fast lens in order to obtain results. On the contrary, the finest definition is obtained with lenses of a speed no greater than F/7.5, F/7.7, F/6.3 and F/6.8. You will notice that the world-famous Protar lenses, than which there are no finer made, are not fast lenses.

To sum up the entire matter, we would suggest that if you can afford to purchase a camera equipped with the Zeiss Tessar F/6.3, we would advise you to do so. Should you ever care to dispose of it, you would receive more for it; and, likewise, should you wish to use the lens for any other purpose, it would serve you to better advantage. However, if you cannot afford to spend so much money, the lower-priced anastigmats used, as indicated in the instruction-book, for the purpose intended, will give you excellent and very satisfactory results. We believe that the difference in definition would be so slight that the eye would be unable to detect it, and in fact, we do not see why there should be any difference at all.

A. D. E.—**Sometimes an enamel-tray will cause trouble,** when it has gotten chipped or has the enamel worn off in spots. The exposed iron coming in contact with the developing-solutions may stain or otherwise injure the prints or negatives. Such trays should be recoated with bath-tub enamel, the broken places first being filled with litharge mixed to a paste with glycerine and plaster of Paris.

F. A. C.—**With regard to the violet panes** which correspondents have noticed in some of the old residences of Boston and other Eastern cities, I will give the explanation of Mr. Ralph Cram, the eminent Boston architect:

"In the year 1800, or at all events when this particular group of houses was being built, a ship-load of glass came over from England, which was perfectly clear when it arrived, but, shortly after it was set in the windows, some chemical action took place which turned the glass purple. It is supposed that some chemical or other became mixed with the materials when the glass was manufactured, and that under the influence of the sun the glass slowly changed its color.

"Without knowing the origin of this purple color in the window-panes, many persons introduced such windows in their homes about 1876, and this old violet glass became somewhat of a vogue. It must be remembered that there is a difference in cause and sentiment regarding this old violet glass as now seen in some of these old private residences."

E. S.—**Transparencies are not difficult to make** if one is at all accustomed to photographic processes. They are simply prints on glass, and made after the same manner. It is best to use a rather slow plate, as it is easier to manipulate and gives good contrast. Place your negative and plate film to film, in a printing-frame, and expose to artificial light, at a distance of three or four feet, for a few seconds (with 16 C. P. electric light, and an average negative, possibly five to ten seconds), then develop in a good contrast developer such as is given with the plate chosen. Special transparency plates are on the market, coated on ground-glass. If these are used, all that is necessary to show them is a plain glass over the face for protection when put in the binding-frame. If the plate is clear glass, it should be bound with a ground-glass.

H. B.—**An easy way to title negatives** or place any inscription on a print which can be shown in white letters, is this: Take a piece of Kodaloid, which is a very thin transparent celluloid, and holding it with the plate toward the light, locate the place where you wish the writing to appear. Then take the Kodaloid, and on the side which will come next the plate do your printing or writing. When the two are fastened together at the edges, you have a good protection for your negative, and the title will print correctly. A good medium is ink with lamp-black dusted in.

EVENTS OF THE MONTH

Announcements and Reports of Club and Association Meetings, Exhibitions and Conventions are solicited for publication

Enemy-Goods

A VERY serious problem before the British photographic trade calls for immediate attention. The feeling of most of our fellow countrymen is unquestionably hostile to German products. It is unlikely that the terms of peace will exclude them officially, and it will rest with the British user to do so unofficially by abstaining from purchasing them. Some of these products are sufficiently well recognized to label themselves as to their country of origin; but the great bulk of the German photographic apparatus which was on the market here before the war masqueraded as English, and bore the names of British firms, who merely imported it and handed it on to the dealers. Then again, there are products which give no suggestion of their origin. When we buy a pound of sulphite or a dozen mounts, we are generally quite in the dark as to their source, and the same applies to the ingredients of a made-up solution, or of some fabricated article. What guarantee is a photographer to have in the future against such products? Given a determination not to buy enemy goods, if he can help it, how is he to be certain that a camera or a lens, a packet of chemicals or a darkroom-lamp, does not hail from across the Rhine? That is the problem which the British industry collectively has to solve, and, we trust, it is not neglecting it. We feel that we can rely upon it to provide the home-products in that quality which the word "British" has come to connote, and at reasonable prices: but how are we to recognize them?

The Amateur Photographer.

This is noble, patriotic advice, indeed. But as our esteemed overseas cotemporary is undoubtedly sincere in his objection to German-made goods, we assume that he is equally opposed to the present and future *use*, by his countrymen, of German-made cameras, lenses, microscopes, binoculars and other optical instruments—products purchased or acquired by them before the beginning of the war.—[EDITOR.]

Photographic Restrictions Rescinded With Regard to U.S. Camps

THROUGH the courtesy of Mr. L. B. Jones, Advertising Manager of the Eastman Kodak Company, we are able to give the readers of PHOTO-ERA the latest governmental rulings on picture making in U.S. Camps. The new regulations and amendments follow:

"You are now informed that instructions have been given to rescind paragraphs 9 and 10 of Special Regulations No. 102, and to amend Paragraph 8 to read as follows:

"'Ordinarily, photographs of military subjects concerning which no secrecy is required may be taken freely without restrictions other than such as may be imposed by the Commanding Officers at camps, ports, fortifications, armories, arsenals, factories, and other places connected with the national defense, in the interests of discipline and good order and with due avoidance of unfair discrimination. Nov. 30, 1918.'

"8. The object of these regulations is to remove all unnecessary restrictions and grant the maximum of practical freedom to citizens in photographing matters of legitimate public or private interest in so far as is compatible with discipline and good order. Ordinary photographs of military subjects, concerning which no secrecy is requisite, may be taken freely about open camps without restrictions other than such as may be imposed by the commanding officer, having due regard to the avoidance of unfair discrimination. The term 'open camps' is understood to include all divisional camps, replacement camps and officers' training schools. In these places the intelligence officer shall have charge, under the direction of one commanding officer, of such details of registration, limitation, and inspection as may be found necessary for the proper control of civilian photographers within the reservation. The freedom to photograph in open camps may be revoked or limited at any time by the commanding officer when exigencies arise demanding secrecy.

"9. None but official photographers of the Signal Corps, or other recognized bureau of the War Department or of the Navy, or of the Committee on Public Information, properly identified by a permit secured from the Director, Military Intelligence Division, shall be allowed to make photographs, moving pictures, drawings, or pictorial records of movements of troops, experiments in matériel, experiments in intrenchments or experiments in formations, fortifications, armories, arsenals, or factories connected with the national defense, except as hereinafter provided. The taking of photographs from kites, aëroplanes, or balloons, and the taking of photographs at ports of embarkation and at camps connected with such ports, and of troops aboard transports, are forbidden, except to commissioned officers with special permits from the Director, Military Intelligence Division.

"10. Progress pictures for record purposes only may be made within the prohibited reservations hereinabove referred to by properly accredited civilian or other photographers having permits from the Director of Military Intelligence, provided, however, that prints of all pictures be submitted in triplicate to the Director of Military Intelligence. Under no circumstances may progress pictures be used for advertising, exploitation, or commercial exhibition."

An Attractive Calendar by W. S. Davis

AMONG the numerous artistic and home-made calendars sent, with greetings and good wishes, to the Publisher, was one by the eminently versatile W. S. Davis. This souvenir for the year 1919 is a 4 x 5 color-print of a modern American battleship firing a broadside—at the enemy or in salute—the print being mounted on a large pebbled card, with a suitable calendar card attached below. This attractive color-print is one of a set of twelve published by the Gerlach-Barklow Company, of Joliet, Illinois, from a series of oil-paintings made by Mr. Davis, in 1917, to illustrate various periods of modern naval warfare. This firm publishes the fac-simile reproductions as a set of monthly calendars and supplied Mr. Davis with a number of proofs for his own use. Any one interested may apply to the above-named firm.

XUM

Personal Loss to Mr. A. H. Beardsley

It is with feelings of deep regret and sorrow that the Publisher records the death of Mrs. A. H. Beardsley, wife of our Assistant-Editor, December 18, 1918. Death was due to influenza which developed subsequently into double pneumonia. In view of the fact that Mr. Beardsley himself was convalescing from an illness of several weeks and then was called upon to bear the additional burden of loss and sorrow, the office-routine was necessarily interrupted by his long absence from his desk. The Publisher feels confident that the friends and readers of Photo-Era will bear with him in the circumstances, until the office-activities are once more working smoothly.

An Open Letter from an Aggrieved Professional Photographer

Editor of Photo-Era Magazine:

I enclose copy of a letter addressed to Secretary Columbus, which I think will explain itself. It does not seem right to me that the officers of the National Association should be allowed to exploit the visitors at local conventions in this manner, or to injure the prestige of the local association by their trickery. If they are selling but four-months membership and four issues of the *Association News*, they should say so and charge accordingly, and not sell a full year's and then deliver the above amount. It is a disappointment to me to find that an association of photographers will descend to such practices.

Yours very truly,

F. D. Burt.

Pittsfield, Mass., Jan. 3, 1919.

Mr. Chas. J. Columbus, Sec'y,
Photographers' Association of America,
Washington, D.C.

Dear Sir:

In spite of the "strong-arm" methods adopted for your membership campaign at the Springfield Convention in August, I was very glad to enroll in the National Association as I am a firm believer in the spirit and advantages of co-operation. I therefore sent you in all good faith my cheque for two dollars and twenty-five cents, which, I was informed, covered dues and subscription to your Journal for one year. In return, I received a membership-ticket good until January 1, 1919 (four months), and have received to date four issues of your Journal. When I wrote, calling your attention to this matter, I received a reply breathing of patriotism, brotherly love and good fellowship, and appealing to me to believe that I was getting all to which I was entitled and not to quibble over the few cents involved, and I therefore let the matter rest.

I have now received from you another bill for dues for 1919, which I take great pleasure in returning to you by the first mail with no intention to invest more money in you or your organization. I assure you that I am always willing to be cheerfully stung the first time, but only once do I bite on each individual species of gold brick. Neither do I care to belong to any organization which is not founded upon a principle of honesty and fair dealing, and you cannot remove my name from your rolls any too quickly to suit me. I had long felt that I should be a member of the National Association, it needed only the asking to make me gladly enroll, and I am equally glad to get out now that its character has been disclosed to me.

I am sending copies of this letter to President Painting, of The New England Association; to *American Photography* and to Photo-Era, and I sincerely trust that they will print it with my name signed in full.

Yours very truly,

F. D. Burt.

Pittsfield, Mass., Jan. 3, 1919.

The Chickering Studios

The well-known Chickering Studios, West Street, Boston, Mass.—the founder and proprietor, Elmer Chickering, having died several years ago—is now owned and operated by George H. Hastings and Orrin Champlain. While Mr. Champlain continues to conduct his own busy establishment, at 161 Tremont Street, Mr. Hastings, personally, manages the Chickering Studio, which is now enjoying a large and profitable patronage.

Pittsburgh Convention, March 18-19-20, 1919

Classification of Awards

First Grand Prize—Open to all photographers in U. S. and Canada. Gold Medal. Exhibit to consist of three portraits, which must be made from 8 x 10 plates, or larger. $2 must accompany entry, which will pay for membership in organization for one year.

Class A—Open to all photographers in the Middle Atlantic States. Three portraits to constitute exhibit, the three having highest rating. First prize, Gold Medal; second prize, Silver Medal. All prints to be from 8 x 10 plates or larger.

Class B—Open to photographers in cities of 40 to 100,000 inhabitants in the M. A. S. jurisdiction. First prize, Silver Medal; second prize, Bronze. Portraits to be from 8 x 10 plates.

Class C—Open to photographers in cities of 15 to 40,000 inhabitants in M. A. S. jurisdiction. First prize, Silver Medal; second prize, Bronze. 8 x 10 plates or under.

Class D—Open to photographers in cities under 15,000 inhabitants. First prize, Silver Medal; second prize, Bronze.

Class E—Home-Portraiture, for best three portraits not made in a studio. First prize, Gold Medal; second prize, Silver.

Commercial Photography—Open to all photographers in M. A. S. jurisdiction for the best three pictures of commercial subjects. Contact-prints. First prize, Silver Medal; second prize, Bronze.

The Abel's Cup—A special prize offered by *Abel's Photographic Weekly*, for the two best portraits, not less than 5 x 8 inches, made entirely by an employee working in any studio in the Middle Atlantic States jurisdiction. No entry-fee.

Bulletin of Photography Prize—$10 in gold for the best picture exhibited by a member of the P. A. of M. A. S. No strings tied to the award. Picture may be entered in the classes or as an exhibit.

Rules Governing Awards

Portraits may be framed or unframed.

Three portraits shall constitute an exhibit, except special prizes; awards to be based on the highest rating of the three portraits. No names or identification marks to be on face of portraits. Enclose card or name and address with exhibit, specifying the class in

which they are entered. This will be placed with your exhibit after they are judged and hung.

A fee of two dollars must accompany all exhibits for the Grand Prize, which carries with it a membership in the organization for one year.

Exhibitors in all other classes must be in good standing in the Association, excepting Special Classes.

Getting Definition

When things have settled down a little more, and the British lens-makers are able to transfer their machinery and workmen from munitions of war to munitions of peace, there ought to be a great boom in the lens-industry. It is the ambition of every photographer, and a very legitimate ambition, to be able to use a high-class instrument, and many entertain the belief that it will bring about a marked improvement in their work.

However, there is no rose without its thorn, and the thorn in this case is a big one. To use a lens of the best kind, so as to take full advantage of its powers, calls for something more than the mere attaching of the lens to the camera-front. We have to know how to use it.

When an amateur gets rid of some cheap slow lens and substitutes for it a high-grade anastigmat, he sometimes finds to his amazement that his work instead of being better is actually worse than before. He overlooks the fact that his new instrument works at a much larger aperture, and that it has, therefore, much less depth of focus than its predecessor.

For certain subjects this lack of depth is a valuable quality in itself. It enables us to focus on the main feature of the picture, and to allow the rest to be diffused and softened. But there are other subjects in which it may be quite the reverse: and in some cases we may even find that we cannot get the degree of sharpness which we require, until we have stopped down to as small an aperture as that of the old lens. This does not mean to suggest that the newer instrument is no better, far from it. We shall get, on the whole, a much better character of definition, and get it generally with a much larger stop.

We must not lose sight of the fact, also, that a high-class lens requires what is, in some respects at all events, a high-class camera. The lens forms a critically sharp image in one plane only, which plane is at right angles to the axis of the lens. (It is understood that we are considering a test-subject, such as a flat surface on which is fine detail, as obtains, for instance, in copying.) If we are to profit by the possession of such a lens, we must be able to count upon the sensitive surface of the plate or film occupying that plane exactly: and with a ramshackle camera this cannot be done.

For example, the front of a great many cameras cannot be rigidly fixed at right angles to the baseboard. If we hold the top of the front and the top of the back in the two hands, it will be noticed that there is a perceptible play between them, in such a case. Any play in the front will allow it either to be pulled back out of the vertical by the tension of the bellows, or pulled forward by the weight of the lens and shutter. The effect is equally injurious to the definition, whichever it is. It results in the focal plane being tilted either forward or backwards, as the case may be, whereas the back holding the plate or film remains at right angles to the baseboard. In such a case, the image may be sharp along a line across the center of the plate, and blurred along the top and bottom. Or the top may be sharp and the bottom blurred, or *vice versa*, according to the direction in which the front is tilted.

It may be asked if such a defect in the camera is not equally harmful, whatever lens may be used, but the reply is that it is not. Less perfect lenses, for one thing, will not be used at as large an aperture. Instead of working at F/6 or F/6.5, they may have to be used at F/8 or F/11. Consequently when we are using them at their best we have more depth of focus than when we are using the high-class anastigmat at its best, and the effect of this greater depth of focus is to nullify more or less the blurring caused by the defective camera-front.

When we referred to "high-class cameras" being necessary for use with high-class lenses, we did not mean that the camera for such a lens is necessarily expensive. It must be good. Such excellence can be obtained either by costly workmanship or by simplicity of design. To ensure the front of the camera being parallel with the back, calls for thoroughly good workmanship in a folding-camera, but in a box-form camera it can be obtained in the simplest manner. If the box-type of instrument is true when it is made, and with machine-construction this is easily obtained, it will remain true to the end. The substantial connection between the back and the front allows the relationship between the sensitive surface and the focal plane to be maintained in a manner which is not got so easily when the camera is made to fold up.

The folding-camera must not only be properly made to start with, it must be handled carefully, or the front will soon be strained and made loose, and when once it has any play it is a very difficult matter indeed to put it right again.

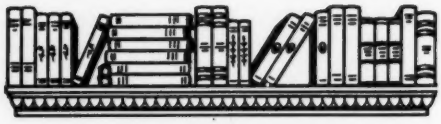
Some cameras are fitted with a useful movement known as a swing-front. It is very important in such apparatus that the photographer shall have some mark by which he can tell at a glance that the front is in the parallel position—parallel with the back, that is—and not swung. For the same reason, the swing-back should have a similar indicator. Many modern cameras have catches in the side struts for this purpose.

The very slight degree of depth of focus in high-class lenses calls for accuracy in another respect. The focal plane of such lenses is, to all intents and purposes, flat, and the sensitive surface to receive the image must be flat also. With glass-plates there is no trouble on this score, but when we come to deal with celluloid-film the case is different. In small sizes the tension, the backing of black paper, and the grooves or rebates of the camera keep it reasonably flat, and no trouble is experienced in getting an image that is uniformly sharp all over, but when we come to work such sizes as 4 x 5 or larger, it becomes increasingly difficult to keep the film flat enough to be used effectively with the most rapid lenses. We have seen negatives in which there has been a band of blur running across the image, which showed in an unmistakable manner that the film had had a wave or buckle in it along that band at the time of exposure.

For the same reason, the focusing must be accurately done with these lenses, and the longer the focus of the lens, the less will be its depth, and the greater the need for care. We soon reach a size of picture beyond which it is useless to attempt hand-camera work with a very rapid lens, because of its lack of depth, but precisely where the line should be drawn will depend to some extent upon the skill of the photographer. The fact is a very strong point in favor of the tiny camera—since with it, most of the difficulties originating in lack of depth of focus are avoided.

W. D., in *The Amateur Photographer.*

XUM



BOOK-REVIEWS

Books reviewed in this magazine, or any others our readers may desire, will be furnished by us at the lowest market-prices. Send for our list of approved books.

THE AMERICAN ANNUAL OF PHOTOGRAPHY. 1919. Volume XXXIII. Edited by Percy Y. Howe. With copious illustrations in black and tint. Price, paper, $1.25; cloth, $1.75. New York: George Murphy, Inc., 57 E. Ninth Street, sole sales-agent.

There is an ever-increasing interest in this justly popular American photographic annual. Although our participation in the war has resulted in typographical and economic difficulties for every publisher, we can congratulate the publishers of the annual for the general excellence of the current issue, in the circumstances. The contents is representative of American skill and taste in pictorial, nature and genre-photography. Among the authors of practical and interesting articles are Paul L. Anderson, A. H. Beardsley, John Boyd, Sigismund Blumann, C. H. Claudy, William S. Davis, Arthur H. Farrow, Thomas Edward Halldorsen, George D. Jopson, Dr. T. W. Kilmer, John Lewisohn, A. Lockett, Percy Neymann, Ph.D., Harry G. Phister, Henry F. Raess, George Steele Seymour, Bayard Breese Snowden, Karl Tausig, Stillman Taylor, and William H. Zerbe.

Some unusually creditable work has been done by professionals, among whom may be mentioned William S. Davis, Rudolf Eickemeyer, Elliott Studio, Louis Fleckenstein, Gill & Son, Jared A. Gardner, Belle Johnson, W. B. Poynter, Jane Reece, Ira D. Schwarz, Kate Smith and William H. Zerbe.

The amateurs also have contributed eminently superior work. Of special interest are pictures by Louis Astrella, Edgar A. Cohen, Arthur Daring, Louis A. Dyar, Theodore Eitel, Louis Goetz, A. B. Hargett, G. W. Harting, Blanche C. Hungerford, Dr. T. W. Kilmer, William Ludlum, James A. Paton, W. H. Porterfield, W. H. Rabe, George Steele Seymour, Kenneth D. Smith, A. M. Sornberger, M.D., Stephen H. Willard and Harry D. Williar.

A list of up-to-date tables of weights and measures, plate-speeds, solubilities of chemicals used in photography, distances in enlarging and reducing, hyperfocal distances, systems of stops, length of studio required for lenses of different foci and other valuable data. In addition, there is a list of American photographic societies, their membership, officers and dates of meetings.

LENS-WORK FOR AMATEURS. By H. Orford; with numerous illustrations. Price, cloth, $1.35. Bath, New York and Melbourne: Sir Isaac Pitman and Sons, Ltd.

This little book deals with the *manufacture* of photographic lenses. By means of numerous carefully drawn diagrams, it introduces the photographer to the many delicate operations needed to produce the modern objective. The explanations are given in such simple language that any amateur who has access to a lathe and a slight knowledge of turning, may make the required tools. Every chapter is interesting and profitable reading. Perhaps, the greatest value of this book to the average camerist lies in the fact that it arouses an appreciation of the lens-maker's art. Some of the chapter-headings are: A Lens Defined; Tools Used by Lens-Workers; Different Systems of Lenses; Making Patterns; The Aperture of Diaphragms; Methods of Mounting Lenses; Testing Different Lens-Systems; Testing the Aperture of Lenses, and many other equally interesting subjects. It is eminently worth the time of every camerist to read this little volume thoroughly, for he will use his lens to better advantage and with greater pleasure.

The Best Book on Retouching

MOST of the books that treat on retouching and working on negatives, with the intention to improve them are very incomplete and unsatisfactory. Everybody interested has been looking for the ideal book on this important subject, and, considering the opinions expressed by expert professional photographers, PHOTO-ERA takes pleasure in recommending, to professionals as well as to amateurs, the best book on this subject printed in the English language. We refer to the work, "A Complete Treatise on Artistic Retouching, Modeling and Etching," by Clara Weisman—an expert retoucher and, for many years the head of the retouching-department of one of the largest photographic establishments in this country. The author is by training, experience and temperament well-fitted to treat so difficult a subject as retouching; and admirably, indeed, has she performed her task. Not only does she set forth, at once clear and concise, the principles of sane retouching and their application, but how to avoid the common error of spoiling a likeness and its anatomical aspect by senseless manipulations. She demonstrates the importance of truth in modeling the human face, and illustrates by means of examples the danger of falsifying the results of the lens. On the other hand, there are numerous delightful illustrations of genre and portrait-photography, exemplifying the best principles of the retouching-art which make for the artistic blending of truth and ideality. The author also illustrates how successfully an expression of gloom may be converted into one of happiness, and how other modifications on the negative may be effected by skilful use of pencil and etching-knife, urging only such technical manipulations as may be successfully practised by the retoucher of average ability, her one thought being the attainment of supremely artistic results by easy and sensible methods.

Although the author is a practical artist and a recognized authority in her specialty, she supports her advice with references to well-known art-principles, thus imparting to her words greater value and force. The closing chapter, "Style and Individuality," reveals the author's familiarity with the works of the great painters, and worthily terminates a volume that should be in the hands of every practical worker—professional or amateur. We accord it our heartiest endorsement.

The book is fully illustrated and only a few copies are left. It was published at $2.50, but will soon be out of print. Copies will be sent by the publisher of PHOTO-ERA on receipt of $2.00 each.

Camera versus Baby

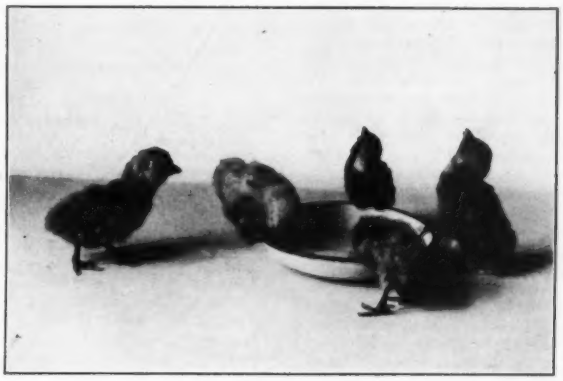
"How did you get rid of that bore Jones and his prattle about his new baby?"

"I introduced him to Smith who has just got a new Cycle Graphic."

LONDON LETTER

CARINE AND WILL CADBY

EVEN the writers of a photographic letter may be allowed to record the fact that since our last communication war has stopped. This is surely the greatest world-event since war was declared. We, in this country—even the non-combatants—for four and a quarter years, have been very near the hub of events; our every-day life has been altered radically by the war. We have done all sorts of work of which we should have thought ourselves incapable before August, 1914. We, at least in this county of Kent, have become accustomed to air-raids, "dud" shells, shrapnel, and search-lights; we even knew the particular hum of a "Gotha;" and it is a little difficult to realize, at present, that all these things belong to the past, and that life will solidify and settle, certainly not as it was before, but into new channels, for we have all learned many lessons from the war. And now that the guns are silent, we may perhaps be excused if we spare a few lines for the unphotographic pleasure of congratulating—yes, and thanking our readers' country for the able and decisive part the United States has played, and just when everything seemed to hang in the balance.



FROM "PUPPIES AND KITTENS" BY THE CADBYS

One immediate result of the cessation of hostilities has been the doubling of the bulk of the daily papers. The penny variety has blossomed out to eight pages, the actual size of its pre-war halfpenny-days, and the second papers are filled with advertisements offering for sale all sorts of commodities that were unobtainable a week or two back, their possessors evidently, hoping to snatch war-time profits from goods they have kept in reserve. Conspicuous among these are offers of tons of high-grade paper. This, surely, affects photographic printing, even if the particular varieties offered are not of photographic quality, and we may hope that an end has come to the continual and, no doubt, necessary rises in photographic materials. Another immediate result has been the revocation of a considerable number of regulations under the Defence-of-the-Realm Act, that much-bemoaned *Dora*, dubbed feminine because of the initials. It is no longer an offense to sketch or photograph on the coast or elsewhere, and any necessary control in this direction will be exercised under the Official-Secrets Act of 1911. Thus, photographers have obtained already a big slice of freedom, and the result is likely to be a large crop of seaport views in next year's exhibitions. Indeed, we may expect to see one of the much-talked-of Q Mystery ships as the *raison d'être* of some pictorial composition! We are also informed that arrangements are being made to withdraw all the restrictions of the Press Censorship, except those, mostly military, which it is considered necessary to preserve until the conclusion of peace. It is not clear, at present, whether manuscripts going to America are yet free, and, to prevent any mistake, this letter will be forwarded as usual, via the Chief Postal Censor, who, we must acknowledge, has at all times courteously facilitated the dispatch of our London Letter to PHOTO-ERA.

A short time ago, we were able to wring a little amusement out of the comparison of a visit we had just paid to a big London photographic dealer with the conditions that had prevailed before the war. The changes brought about by the four years' struggle came gradually. They were all sad, depressing and limiting; but at least we were broken in by degrees. It was the same with this big business. The changes had been gradual, one employee after another had dropped away, and it was not until we had recalled a mental photograph of it in pre-war days that we realized the contrast.

In those halcyon days one of the seven or eight alert assistants would spring to meet us as we entered. Photography was in the atmosphere of the place; photographic terms were heard all around. There was nothing about photography not known here, nor could any photographer hope to sneak by unrecognized. We were respectfully asked about our work and told of the latest things on the market. Sometimes advice was sought, and compliments cleverly conveyed, so that we left the place feeling that we were rather important people.

On our last visit, when we tried to buy a photographic article, we found only three persons in the shop—a manager of non-combatant age, and two rather languid ladies. One of them roused herself from her detachment to tell us that what we wanted was not in stock, and the other's revery remained undisturbed. With such a reception, we felt our incognito assured, therefore we tried to chat with the manager.

He told us that no cameras were being made at present, and, when we consulted him about photographic shows in London, he apologized for not being

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able to tell us of any; then, noticing a leaflet on the counter, he paused, and we all looked at it together. It was an advertisement of the last days of the R.P.S. exhibition. "Oh," we said, "what kind of show is this?" He was rather at a loss, till his eye wandered down the page and he remarked more cheerfully, "There is nothing to pay to go in." After that we gave up trying to talk "shop." "Well, anyhow," we said, as we walked away, "no one can accuse them of being obsessed with photography." Probably in six months' time—for alas! we are not as clever in swinging back into peace-conditions as quickly as you are across the Atlantic—the place will be humming once more with photographic talk, and, as in old days, will seem one of the hubs of photographic activity.

"Puppies and Kittens" and Other Stories, the third book for little children, written by one, and illustrated by the other, of the present writers, has just been published (Mills & Boon, 2/6 net). It contains four stories and there are thirty-nine full-page reproductions of original photographs as illustrations. We have often contended, in these letters, that children show far more interest in photographic illustrations than in the most beautiful of drawings. This may be through some defect in the young people, probably their partly developed intelligence is better able to appreciate bald transcripts from Nature than the illustration that is the outcome of a black-and-white artist's imagination. Or, perhaps, their all-absorbing wish that the tale shall be true causes them to lean towards, and like, the photographic interpretation—as most innocent persons of even mature years think that the camera cannot lie. But whatever the cause, we know that with most normal children this statement holds good, and the success of these little books has confirmed our conviction; for large reprints of both "The Dolls' Day" and "Finding a Fairy" have been issued. In the new book the same ideas have been carried out. The stories are written for children, and care has been taken that no word is used that a child learning to read cannot understand. The photographs are of kittens, puppies, chickens and cobwebs, all made in their normal every-day life, even to the faithful detail of a spider's preoccupation with a trespassing fly.

Arrangement of Allied Flags

Among our new subscribers is a gentleman from Toledo, Ohio, who, like Photo-Era, feels that during this war we should not allow our own importance to become too assertive, lest it obscure our sense of chivalry towards the Allied nations, France in particular. The subscriber's communication was enclosed in an envelope, bearing on its face a cluster of four Allied flags, admirably printed in the true colors. The national emblems, from left to right and in the order named, are Britain, Cuba, France, and America arranged so that none is in the center. The first two flags are represented as flying from their staffs towards the left and the other two towards the right—surely a happy arrangement.

Upon inquiry, Photo-Era learned that the credit for this beautiful group of Allied flags is due to the patriotic enterprise of the American Type-Founders Company who designed and cast it for general use by the printing-trade. It has been used extensively by patriotic business-firms in regular correspondence.

A mere copier of nature can never produce anything great, can never raise and enlarge the conceptions or warm the heart of the spectator.—Joshua Reynolds.

Our Illustrations

(*Continued from page 101*)

out of the question, when one examines the direction and depth of the shadows cast by each individual subject. The lighting and grouping merit the highest praise, and one is inclined to regret the presence of insistently horizontal lines which interfere with a complete enjoyment of one of the most meritorious animal-pictures that has ever graced these pages. Data: July, 1918; about 2 P.M.; bright sun; 6⅞ inch Bausch & Lomb R.R. lens; stop, F/16; 1/25 second; 4 x 5 Seed 27 ; M. Q.; 7½ x 9½ enlargement on P. M. C. No. 8, double-weight rough.

The third picture of this interesting prize-series, page 92, makes an irresistible appeal by the happy combination of a child with its pet. It is hard to see how the grouping could be improved. The mutual interest is delightfully expressed—naturally, ingenuously. Though the lower part of a screen-door is somewhat strongly in evidence, it does not seriously mar our pleasurable interest in the picture. No doubt, a little more space at the left, to give the boy more elbow-room—had the camera been directed a trifle more to the left—would improve the placement of the group. Data: October, 1918; 11 A.M.; fair light; 4 x 5 Premo; 9½-inch Goerz Dagor; at F/6.8; 1/12 second; 3¼ x 4¼ Seed Graflex plate; pyro-soda; 5½ x 7½ enlargement on Artura Carbon Black.

The Beginners' Competition

In considering the exquisite child-portrait, page 95, I am reminded of that superb series of pictorial photographs, by Japanese artists, published and reviewed in the issue of August, 1917. That was, indeed, a wonderfully beautiful exemplification of Japanese photo-pictorial art, in which Mr. Kobayashi's picture—though supremely successful in the Beginners'(!) class—deserves to have an honored place. It seems to possess all the qualities that distinguish an eminently artistic achievement. Whether one judges the portrait from the viewpoint of interpretation, composition or execution, he will be willing to concede the manifestation of supreme talent. In any event, the picture serves as an example of mastery in lighting, posing and expression not only to students in portraiture, but to advanced workers and professional portraitists. It will repay careful and thorough study.

This is the first time that Mr. Kobayashi has participated in the Beginners' Competition. It is also his last, for, having won the first prize, according to the rules, he automatically ceases his interest in that department and becomes eligible in the Advanced Workers' Competition where, it is earnestly hoped, he will be seen as advantageously as in the present instance. No data.

Our Contributing Critics

The picture offered this month to our contributing critics for consideration is "Fishermen's Huts, San Leandro Bay," by F. W. G. Moebus.

An Up-to-date Subject

Amateur camerist to pretty girl (a brand-new acquaintance) after having posed and photographed her: "If I should kiss you, I suppose that you would go and tell your mother."

She: "No, my lawyer."

WITH THE TRADE

The British Lens-Industry

REGARDING the future of the photographic lens-industry in England, the president of the Edinburgh Photographic Society is of the opinion that "it *may be* . . . that English makers *will* be able to produce lenses rivaling the best productions of Jena." To this sentiment the *Amateur Photographer* replies: "Not that they have done so; but that now that the Germans have shown the way, the British makers, if only they try hard—and have luck, shall we say?—*may* one day ultimately reach that level. We hope that the British lens-makers will ask themselves how it comes about that on such an occasion as the annual presidential address referred to, British lenses are described in such a way, without anyone of the audience, so far as we can learn, being in a position to stand up and challenge the implication. Some of us know that the best products of our leading opticians are second to none, but it is clear that that knowledge is still limited to the few. It is not the fault of the photographic press. But it is surely the business of those who actually make the lenses to leave no stone unturned to have their merits known and appreciated."

DEAR MR. FRENCH:—

We have just received the following telegram which will be hailed with much joy by all who are using, or desire to use, flash powders for photographic purposes. Will you kindly announce the *good news* in the first issue of your valuable Magazine which goes to press, namely,

"WASHINGTON, D.C., Jan. 11, 1919.

JAS. H. SMITH & SONS CO.,
Chicago, Ill.

Restrictions on Flashlight-Powders removed from explosive-regulation list January 9, 1919.

CLARENCE HALL,
Chief Engineer, Bureau of Mines."

Very truly yours,
JAS. H. SMITH & SONS CO.

The Wellcome Exposure-Record and Diary

THE 1919 edition of this useful and handy annual publication, the usual pocket-size, has been received. In looking it over carefully, we find that it contains the Wellcome Standard Exposure Calculator, accompanied by tables of plate and film-speeds, and light-conditions, for every month of the year, which enable the camerist to determine the accurate amount of exposure for any subject with a given lens, stop and plate or film. This information is now obtained by a novel and improved change in the scale, and requires but *one revolution* of the disk, instead of consulting several tables, as formerly. There is also a weekly diary and a generous number of record-pages for negatives and positives. This neat, simple, accurate and concise guide is for sale by all dealers, throughout the United States and Canada. It has PHOTO-ERA'S heartiest approval.

A Valuable Booklet on Lantern-Slide-Making.

THE Eastman Kodak Company has issued a very practical and interesting illustrated booklet, "Lantern-Slides, How to Make and Color Them." It is of technical and artistic value to every professional and amateur photographer who is eager to do the very best work. This booklet is obtainable at photo-supply stores or from the publishers.

A. Madeline to Make Short Trip Abroad

THE opportunities of the reconstruction period are so apparent to A. Madeline, 503 Fifth Avenue, New York City—importer of high-grade cameras and lenses—that he has decided to make a short trip to France and England to replenish and enlarge his stock. Mr. Madeline hopes to obtain the American Agency for a French anastigmat which, in his opinion, equals in speed, quality and definition the finest lenses now on the market.

Beware of Formulæ for Sale

IN a recent issue of the *British Journal of Photography* appears a well-timed editorial warning to those who may seek to enrich themselves over night by purchasing formulæ of "immense commercial value." In most cases, these "newly discovered formulæ" are already to be obtained from reliable books and periodicals devoted to photography. No inventor or "discoverer" of a really meritorious formula fears to have his work investigated by a reliable independent expert; and this precaution should be taken without exception before any sale is "closed." There would be fewer bitter disappointments if purchasers would first make a thorough investigation.

Such is Fame

IT has remained for a well-known English dryplate firm to discover an advertising-value in President Wilson's famous Fourteen Points, and to utilize it, too. This cleverly adapted full-page advertisement appeared in a November issue of the *British Journal of Photography*, and made a deserved sensation. At the top of the page appeared the figure of the President in the act of raising his silk-hat in salute, and smiling broadly. Then followed the Fourteen Points—with no reference to the future welfare of the world, however, but setting forth the advantages of a dryplate of standard quality. The slogan—"Surrender!" in large, bold-face type, concludes this daring act of publicity.

WE are in the dawning of a new era. Old conditions and methods have passed away and business men must adjust themselves to the times that are to come rather than try to readjust themselves to those that were.

The Spatula.

An Announcement

OUR activities for the past year have been nearly 100 per cent. devoted to war production of vital importance to the government, compelling us to discontinue regular manufacture in practically all of our lines.

The cessation of hostilities has now enabled us to begin the readjustment to a peace-production basis. While this adjustment must be gradual, we are pressing it with all possible speed in order to satisfy the requirements of our normal trade at an early date.

We appreciate the patience and understanding with which our patrons have reacted to the situation and trust they may continue to exercise such consideration until our manufacturing-facilities are once more on a pre-war footing.

Bausch & Lomb Optical Co.

622 ST. PAUL STREET, ROCHESTER, N.Y.

New York Washington Chicago San Francisco

Leading American Makers of Microscopes, Projection-Apparatus (Balopticons), Photographic Lenses, Ophthalmic Lenses and Instruments, Range-Finders and Gun-Sights for Army and Navy, Searchlight-Reflectors, Binoculars, and other High-Grade Optical Products.

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